DETAILED REQUIREMENTS DOCUMENT
FOR
STOWAGE LIST AND HARDWARE TRACKING SYSTEM
(SLAHTS)

Job Order 88-079

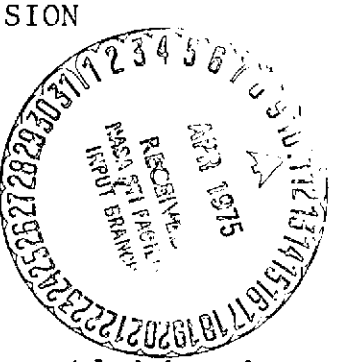
Prepared By

Lockheed Electronics Company, Inc.
Aerospace Systems Division
Houston, Texas

Under Contract NAS 9-12200

For

INSTITUTIONAL DATA SYSTEMS DIVISION



National Aeronautics and Space Administration

LYNDON B. JOHNSON SPACE CENTER

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FOR

STOWAGE LIST AND HARDWARE TRACKING SYSTEM

Job Order 88-079

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FOREWORD

This detailed requirements document defines the Stowage List and Hardware Tracking System requirements (SLAHTS). SLAHTS, a computer based system, will be used in support of the Space Shuttle orbiter stowage configuration and the Johnson Space Center hardware tracking. Preparation of this document is in response to the support contract job order 88-079. This document defines the input, processing, and output requirements that serve as a baseline for system development.

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FIGURES

ABBREVIATIONS AND ACRONYMS

ACMB	Application Configuration Management Board
ASCII	American Standard Code for Information Interchange
Bldg.	Building
DRD	Detailed Requirements Document
E&D	Engineering and Development Directorate
FOD	Flight Operation Directorate
ID	Integration Division of POO
IDSD	Institutional Data System Division
JSC	Lyndon B. Johnson Space Center
LEC/ASD	Lockheed Electronics Co., Inc., Aerospace Division
MOPS	Mission Operations Planning System
NASA	National Aeronautics and Space Administration
POO	Program Operations Office
QAD	Quality Assurance Division of SR&QA
SLAHTS	Stowage List and Hardware Tracking System
SLCN	Stowage List Change Notice
SPIMS	Shuttle Program Information Management System
SR&QA	Safety, Reliability, and Quality Assurance

APPLICABLE DOCUMENTS

1. Task Description for the Stowage List and Hardware Tracking System, Job Order 88-079, Data Systems Development Branch, Institutional Data Systems Division, September, 1974.

2. Detailed Requirements and Functional Design Document for Shuttle Mass Properties Automated System, Job Order 88-069, Data Systems Development Branch, Institutional Data Systems Division, December, 1974.

1.0 PURPOSE

This system is one of the applications being developed as part of the JSC Shuttle Program Information Management System (SPIMS). It is intended to provide an integrated management and documentation tool to support

- Orbiter mission stowage requirements
- Orbiter stowage design
- Definition and dissemination of procedural nomenclature
- Inventory control for orbiter flight hardware
- Inventory control for all hardware in bonded storage; this includes the above mentioned orbiter flight hardware
- Inventory control for all training hardware; this includes orbiter training hardware which has descriptive elements identical with the orbiter flight hardware descriptive elements.

Elements from four directorate level organizations have been included as "direct" users of the system (i.e., those who have direct control over updates to some part of the data base). These directorates are:

Program Operations Office (POO)
Safety, Reliability, and Quality Assurance (SR&QA)
Engineering and Development (E&D)
Flight Operations (FOD)

In addition, other, "indirect" users receive data from terminal query capability or from reports distributed by a direct user.

The term "hardware" in this document does not include payload hardware, except where additional quantities of operational items are included to support payload work and where actual payload hardware is stowed in the orbiter crew compartment.

2.0 APPLICATION DESCRIPTION

2.1 General. For the operational phase of the Shuttle Program, there are a number of considerations regarding loose equipment. These are:

- Number and frequency of flights - Sixty flights per year using five orbiters indicates that the stowage operation will run at a more or less constant pace instead of having peak periods.

- Number of items required to support the flight model - This means that a "pool" of equipment is needed to sustain the stowage operation at a constant pace. This requires inventory management capability to maintain the equipment level in the pool.

- Configuration changes inherent to loose equipment - Historically, there have always been "last minute" equipment configuration changes for a flight. It is expected that this will remain true for orbiter flights; indeed, by allowing for these changes, a greater degree of flexibility is provided.

- Need for rapid dissemination of stowage configuration data - To support the desired flight frequency the latest approved stowage configuration data must be available to as wide a distribution as possible.

- Integrated data base - For those items of equipment used during orbiter flights, all four direct user organizations are concerned with a common set of data elements. The same data elements are current for all users.

- Reduce cost of data maintenance - By making use of an integrated data base, much data update time by the individual users is eliminated, since the same data elements for the same equipment is not simultaneously changed in different data bases.

The above discussion was concerned only with orbiter flight hardware. When an examination of other equipment is made, it turns out that similar needs for inventory control and management are needed and that this can be done with the same generic data elements used for orbiter flight hardware. This hardware consists of the additional hardware mixed with orbiter flight hardware in bonded storage and with the

orbiter training hardware. This provides an opportunity to perform additional data integration for "JSC hardware" instead of orbiter flight hardware only.

Following are more specific descriptions of the individual user functions in dealing with the various groups of hardware.

2.2 POO-Integration Division. This division is responsible for two processes in dealing with orbiter flight hardware. One process is the equipment stowage definition and documentation. The other process is the actual equipment stowage effort.

2.2.1 Stowage Documentation. Equipment configuration for a particular flight is controlled through action by the Configuration Change Control Board. Actions by the board will be reflected in a stowage list which will be periodically revised and published. Also, a "pre-pack" listing will be produced to conduct actual locker stowage at JSC. To provide inventory management capability for the "pool" of orbiter flight hardware, several other reports are planned.

2.2.2 Equipment Stowage. The locker stowage (pre-pack) will be done at JSC in building 36. These lockers will be packed according to a packing list which reflects the latest approved configuration for that flight. It is possible that there will be last minute configuration changes, and allowance for these changes must be made in order to remain flexible. Also, there may be a need for limited repacking of these lockers after they are at the launch site.

2.2.3 Action on Equipment at Landing Sites. When the orbiter has landed and the lockers are removed, one of three actions is taken with each item of stowed equipment. It may be retained at the nearest launch site for re-use on another flight. It may be sent directly to some other place for some purpose. It may be returned to JSC. Those items returned to JSC will be retained in the bonded storage facilities for action by various responsible JSC organizations. This can be removal for refurbishment or return to the flight equipment pool.

2.3 SR&QA - Quality Assurance Division. QAD is concerned with all hardware in the JSC bonded storage system. This collection of hardware includes, but is not limited to, the orbiter flight hardware. The bonded storage facility

maintains a controlled access environment for the various JSC organizations responsible for program related hardware. This hardware is transferred between bond rooms, between bond rooms and the building 36 orbiter stowage facility, and into and out of individual bond rooms. The procedures for controlling orbiter flight hardware and other hardware are identical, as far as bonded storage personnel are concerned. The number of hardware moves which must be tracked will be large because of the frequency of orbiter flights planned. Figure 2.3 gives a pictorial representation of hardware movement. Inventory control is needed for the QA Division for this hardware, and several reports are planned for this purpose. QAD also uses the stowage list and pre-pack list as acceptance documents for orbiter mission stowage requirements and orbiter stowage design.

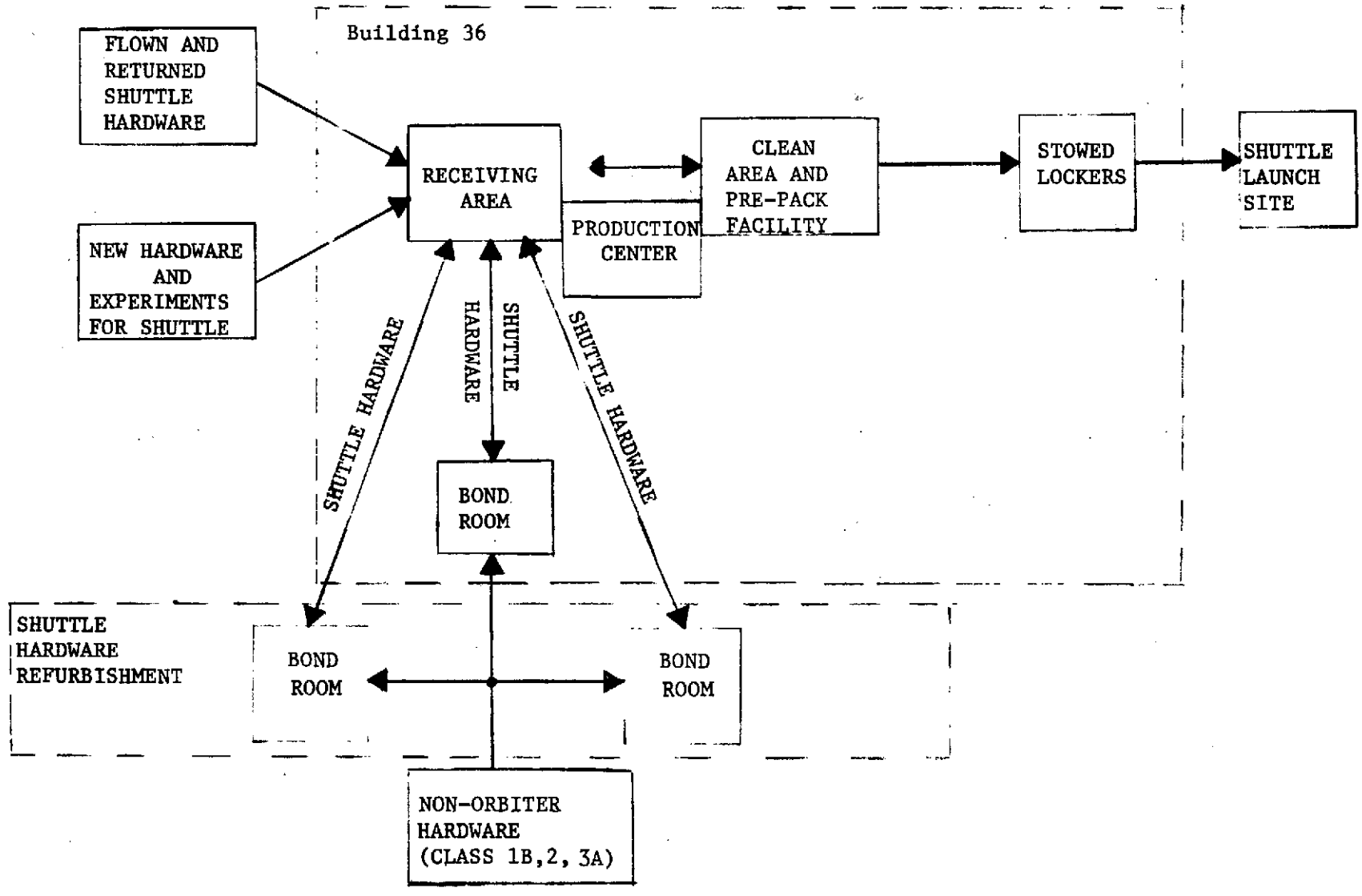


FIGURE 2.3 HARDWARE FLOW

2.4 E&D - Spacecraft Design Division. This division is concerned with training hardware. This includes a pool of hardware items matching the orbiter flight hardware but the pool contains other items as well. None of the hardware is included in bonded storage; it is kept in a separate, controlled location. The orbiter training hardware (i.e., those items which match the orbiter flight hardware) has descriptive data identical to the orbiter flight hardware. The remainder of the training hardware can be described with the same generic data elements. An inventory control capability is needed for this hardware collection.

Another function of the division is the design (or determination) of the stowage configuration for orbiter flights. This involves verifying the hardware stowage in orbiter mockups and trainers.

2.5 FOD - Crew Training and Procedures Division. This division does not control a set of hardware. Instead, it is concerned with the inflight use of the orbiter flight hardware in terms of procedural nomenclature, crew procedures, and hardware stowage. Crew procedures and crew operations are concerned with the choice/assignment/ dissemination of procedural nomenclature and with the equipment configuration for a particular flight - how many items, where they are located in the orbiter, and what items are needed for what functions. Several reports are planned to support crew procedures development and documentation.

2.6 Requirements Overview

2.6.1 General Most of the rapid data dissemination needs of the user organizations come about due to the frequency of orbiter flights. For this reason, interactive capability is required of this system. This will allow faster reaction by all users to flight definition changes which affect loose equipment.

2.6.2 Production Center. All user organizations have common operational needs for use of the system. This includes things like terminal operators to make data base updates, and coordination and submission of batch runs. To provide the common support needed, a production center is planned in building 36 which will be operated by a very small group of people responsive to the users. This group will require access to the system via remote terminals to react to stowage configuration changes.

2.6.3 Bond Rooms. The bond rooms are located in different buildings at JSC. To track the hardware movements within the bonded storage system access to the system via remote terminals is needed. Use of this system will eliminate the need for the present JSC Bonded Storage computer system; it is felt that the current batch system will not keep pace with hardware movement or allow for data integration with the other users, particularly the Integration Division.

2.6.4 Training Hardware. The training hardware will be kept in a controlled access environment similar to the bond rooms. It is expected that the frequency of orbiter flights will be reflected in the frequency of training exercises. This means that the configuration of trainers with loose equipment will procede at a pace similar to that for the orbiter stowage operation in building 36. To track and maintain control of the training hardware during this process, access to the system via remote terminals is needed.

3.0 DATA SET AND DATA ELEMENT DESCRIPTIONS

3.1 Data Set Descriptions

3.1.1 Basic Data Set. This set of data consists of those data elements which describe the hardware on an item level basis.

The following data elements comprise the set:

Item Number
Responsible Organization
Engineering Nomenclature
Procedural Nomenclature 1
Procedural Nomenclature 2
Part Number
Training Part Number
Current Weight
Specification Weight
Length
Width
Height
Program Code
Note Number
Note
Minimum Building 36 Inventory Requirement
Current Bldg. 36 Inventory
Current Other Inventory
Building 36 Accountability
Replacement Lead Time
Refurbishment Time
Shelf Life
Operating Time Life
Cycle Life
Fit Check Requirement Flag
Function/System Classification
Unit of Issue
Minimum Requirement Fidelity Code A
Minimum Requirement Fidelity Code B
Minimum Requirement Fidelity Code C
Minimum Requirement Fidelity Code D
Minimum Requirement Fidelity Code E

3.1.2 Serial Data Set. This set of data consists of those data elements which describe the hardware on an individual (serialized) level.

The following data elements comprise the set:

Serial Number (within Item Number or Part Number)
Class Code
Building Location and Quantity
Cabinet Location and Quantity
Authority Document
Work Order Number
Contract Number
Hardware Transfer Date
Unit Serial Number Weight
Fit Check Complete Flag
Operating Time Remaining
Cycle Life Remaining
Shelf Life Expiration Date
Expected Delivery to B36
Serial Fidelity Code
Issue Date
Due Date

3.1.3 Serial History Data Set. This set of data consists of those data elements which reflect the movement of an item on an individual (serialized) level. The history data is placed in a suspense data set as it is issued by an authority document. It remains in this suspense data set until the hardware move is completed. At this time the history data is placed on a history update file. A History Report may be generated from the history data (Section 4.2.2.15). The latest serial history data for each Serial Number will be available for online query via Display 09 (Section 4.1.1.9).

The following history data elements are stored.

Item Number
Part Number
Serial Number
Hardware Transfer Date
Location (From & To)
Authority Document
Quantity (Lot Numbered Data)

The last entry will contain the current Building Location.

3.1.4 Flight Configuration Data Set. This set of data consists of those data elements which are used to describe and control the hardware configuration and stowage arrangement for each individual flight. It also consists of data elements used to reflect the change control

documentation approved by the configuration control board (change control configuration).

The following data elements comprise the set:

Flight
Orbiter
Phase
Stowage Location (within Launch, Orbit, Return Phase)
Item Number
Total Operational Quantity (of this Item Number)
Total Payload Quantity (of this Item Number)
Landing Site Disposition (of this Item Number)
SLCN Number
SLCN Date
SLCN Description
Serial Number (of all hardware pieces)
Post Flight Disposition

3.1.5 Edit Tables Data Set. This set of data consists of those tables of values needed for input data edit verification by the system at the element level. The tables needed are the following:

Name	Table Number	Size
Responsible Organization	01	4
Orbiter Designator Codes	02	5
Stowage Locker Locations	03	6
Function/System Classification	04	15
Building Locations	05	12
Program Code	06	2
Landing Site Disposition Codes	07	4
Unit of Issue Codes	08	2

3.1.6 Notes Data Set. This set of data consists of the note text. The following data elements comprise the set:

Note Number
Note

3.1.7 Suspense Data Set. This set is used for temporary storage of data elements required to track a hardware move. This data set is generated whenever a user (E&D and QAD) transfers hardware via the Serial Data Display (Section 4.1.1.2).

Serial numbered data can have only one suspense entry. However, Lot Numbered data may have more than one set.

The following suspense data are stored:

Item Number
Part Number
Training Part Number
Serial Number
Building Locations (From & To)
Cabinet Locations and Quantities (From)
Authority Document
Due Date

3.2 Data Element Descriptions. The following is a list of data elements comprising the data base followed by a data element summary (Figure 3.2).

•Authority Document

The document giving QA or Training Hardware personnel authority to move an item into or out of a bonded storeroom or transfer to another location.

Position	Edit Criteria
1-12	Alphanumeric

•Building Location

The bond room or other current location for an item. For non-serialized items there will be multiple entries to provide a complete distribution of the item inventory stock. For serialized items, there will be one entry for each serial number to indicate its present location.

Position	Edit Criteria	Use
1-12	Must match an allowable current storage location	Storage location

•Building Location Quantity

The quantity for an item stored in the building location. For serialized items, this will always be blank.

Position	Edit Criteria
1-2	Numeric

•Building 36 Accountability

The total number of an item released for flight by responsible organization.

Position	Edit Criteria
1-4	Numeric

•Cabinet Location

The cabinet within a particular bond room where an item is stored. This is to provide QA visibility within each of the bond storerooms.

Position	Edit Criteria	Use
1-6	A/N	Cabinet location within a bond storeroom.

•Cabinet Location Quantity

Quantity in the cabinet. For serialized items this will always be blank.

Position	Edit Criteria
1-2	Numeric

•Class Code

A code used to indicate the use status at the serial level. It indicates the SLAHTS user who has control of the serial data set. The codes are as follows:

Position	Edit Criteria	Use
1	1, 2, or 3	1A - Flight Operational Equipment (Orbiter)
2	A or B	1B - Flight Operational Equipment (Non-orbiter)
		2 - Ground test or training in a hazardous environment
		3A - Training in a non-hazardous environment or for display
		3B - Training hardware pool

Shuttle hardware (see Item Number) can have the Class Code values of 1A, 2, or 3A. Non-Shuttle hardware can have the Class Code values of 1B, 2, or 3A. QAD will control the serial data elements for all hardware with Class Code values of 1B, 2, or 3A. EGD will have the Class Code value 3B.

•Contract Number

The contract under which the hardware has been purchased.

Position	Edit Criteria
1-8	Alphanumeric

•Current Bldg. 36 Inventory

The current number of Class Code 1A pieces of hardware located in Building 36.

Position	Edit Criteria
1-4	Numeric

•Current Other Inventory

The current number of Class Code 1A pieces of hardware in locations other than bldg. 36.

Position	Edit Criteria
1-4	Numeric

•Current Weight (Estimated/Actual)

The item weight in pounds to the nearest hundredth of a pound and a code to designate "estimated" or "actual."

Position	Edit Criteria
1-3	Numeric
4	.
5-6	Numeric
7	"A" for actual or "E" for estimated

•Cycle Life

The cumulative number of cycles of use expected from an item.

Position	Edit Criteria
1-5	Numeric

•Cycle Life Remaining

The cumulative number of cycles of use remaining for the item.

Position	Edit Criteria
1-5	Numeric

•Due Date

The date on which an item is expected to arrive at its destination once it has been issued.

Position	Edit Criteria
1-6	Any allowable date in the numeric month-day-year format

•Engineering Nomenclature

The engineering drawing nomenclature of the item.

Position	Edit Criteria
1-40	None

•Expected Delivery to Bldg 36

The date on which an item is expected to be returned to the flight-ready inventory in building 36.

Position	Edit Criteria
1-6	A date in the numeric month - day-year format (MMDDYY)

•Fit Check Complete Flag

A flag indicating whether a pre-stowage fit check has been completed for the item.

Position	Edit Criteria
1	C--completed N--not completed

•Fit Check Requirement Flag

A flag indicating whether a pre-stowage fit check is required for the item.

Position	Edit Criteria
1	R--required N--not required *--not determined

•Flight Number

The designator used to uniquely identify one flight.

Position	Edit Criteria	Use
1	N or D	N - NASA D - Department of Defense
2	E or W	E - East W - West
3-5	Numeric	

•Function/System Classification

A description which categorizes loose equipment by operational function or system (i.e., EVA, tools, etc.). Up to 4 F/S Classifications will be required for any line item.

Position	Edit Criteria
1-15	Match one allowable description

•Hardware Transfer Date

The date on which an item is received into a building location. This applies to both serialized and non-serialized items. (See Building Location and Quantity.)

Position	Edit Criteria
1-6	Any allowable date in the numeric month-day-year format.

•Height

The height in inches of the item (to nearest hundredth). For round objects this field will be blank.

Position	Edit Criteria
1-2	Numeric
3	.
4-5	Numeric

•Issue Date

The date on which an item leaves a building location. This applies to both serialized and non-serialized items.

Position	Edit Criteria
1-6	Any allowable date in the numeric month-day-year format

•Item Number (IN)

The Item Number is used to track all Shuttle Operational Hardware in the data base. The basic data sets for all items which have an Item Number are part of the orbiter flight hardware inventory and are utilized in the Shuttle stowage operations. The operational status of the hardware at the serial level is by the Class Code (see Class Code definition). The Part Number is used to track hardware in the Bonded Storage System (see Part Number definition).

Position	Edit Criteria
1-2	Alpha
3-6	Numeric
7	.
8-9	Numeric
10	.
11-12	Numeric

Positions 1 and 2 indicate responsible division.

•Landing Site Disposition

A code showing the disposition action to be taken for an item at the landing site.

Position	Edit Criteria
1-4	Match with one allowable code

•Launch Location

The location within the vehicle where an item is to be stowed for launch.

Position	Edit Criteria	Use
1-6	Must match one allowable location	Indicate the stowage location.

•Launch Location Quantity

The quantity stowed in the launch location.

Position	Edit Criteria
1-2	Numeric

•Length

The length in inches of the item (to nearest hundredth).

Position	Edit Criteria
1-2	Numeric
3	.
4-5	Numeric

•Minimum B36 Inventory Requirement

The minimum number of an item of Shuttle operational hardware required in the building 36 inventory to support stowage operations.

Position	Edit Criteria
1-3	Numeric

•Minimum Requirement Fidelity Code A

The minimum number of training hardware items required with a Serial Fidelity Code A needed to support training.

Position	Edit Criteria
1-2	Numeric

•Minimum Requirement Fidelity Code B

The minimum number of training hardware items required with a Serial Fidelity Code B.

Position	Edit Criteria
1-2	Numeric

•Minimum Requirement Fidelity Code C

The minimum number of training hardware items required with a Serial Fidelity Code C.

Position	Edit Criteria
1-2	Numeric

•Minimum Requirement Fidelity Code D

The minimum number of training hardware items required with a Serial Fidelity Code D.

Position	Edit Criteria
1-2	Numeric

•Minimum Requirement Fidelity Code E

The minimum number of training hardware items required with a Serial Fidelity Code E.

Position	Edit Criteria
1-2	Numeric

•Note

Additional descriptive information about hardware carried on an Item Number or Part Number level.

Position	Edit Criteria
1-120	Alphanumeric

•Note Number

The unique number assigned to a Note and by which the Note is referenced. Each Item Number or Part Number may have a maximum of six notes. A note may refer to more than one item.

Position	Edit Criteria
1	Alphanumeric
2-4	Numeric

•Operating Time Life

The cumulative lifetime of use expected from an item.

Position	Edit Criteria
1-3	Numeric
4	D--days H--hours

•Orbit Location

The location within the vehicle where an item is to be stowed during flight.

Position	Edit Criteria	Use
1-6	Must match one allowable location.	Indicate the stowage location.

•Orbit Location Quantity

The quantity stowed in the orbital location.

Position	Edit Criteria
1-2	Numeric

•Orbiter

The designator used to uniquely identify one orbiter vehicle.

Position	Edit Criteria
1-5	Must match one allowable orbiter code

•Part Number (PN)

The number given to the item to identify it on an engineering drawing. This will include the "dash number" added to a basic part number to reflect configuration. This number will be used to track the hardware in the Bonded Storage operation. (See Item Number and Class Code for further information.)

Position	Edit Criteria
1-20	None

•Phase

A designator used to identify a flight phase.

Position	Edit Criteria	Use
1	L, O, or R	L - Launch phase O - Orbit phase R - Return phase

•Post Flight Disposition

The disposition action for an item when it is returned to JSC.

Position	Edit Criteria	Use
1-15	None	Disposition action.

•Procedural Nomenclature 1 (PNOM 1)

PNOM 1 is the item nomenclature with basic noun first. PNOM 1 is normally derived by rearranging and condensing the item engineering drawing nomenclature. PNOM 1 is very useful for cataloging like terms in an alphabetical listing. All batteries are then listed together. In such a list "battery, camera, 35mm" might well be followed by "battery, flashlight". However, there are cases in which the item acronym or abbreviation is used for PNOM 1.

Position	Edit Criteria
1-40	None

•Procedural Nomenclature 2 (PNOM2)

PNOM 2 is the item nomenclature in normal usage order: 35mm camera battery. PNOM 2 is the authorized, official nomenclature for operational use. It is selected to be clear, concise, and unambiguous in the contexts in which it is used. It need not necessarily be constructed by using words or phrases from the engineering drawing name. Although PNOM 2 is the "authorized, official nomenclature" it may be further condensed in Flight Data File (FDF) usage to save space when an item would not be confused with some other item, i.e., if a checklist procedure states "Obtain 35MM camera battery" it may later say, "install battery."

Position	Edit Criteria
1-40	None

•Program Code

The code which identifies the NASA program for which the item is used.

Position	Edit Criteria
1-2	Must match an allowable program code.

•Refurbishment Time

The time in weeks needed to recondition an item for re-use in flight.

Position	Edit Criteria
1-2	Numeric

•Replacement Lead Time

The lead time in weeks needed to replace an unserviceable item with a new one.

Position	Edit Criteria
1-2	Numeric

•Responsible Organization

The organization responsible for control of the hardware development and supply.

Position	Edit Criteria	Use
1-4	Must be of the form AANN or AAAA where A-alpha N-numeric	AANN - JSC organization AAAA - Other organizations

•Return Location

The location within the vehicle where an item is to be stowed for return.

Position	Edit Criteria	Use
1-6	Must match one allowable location.	Indicates the stowage location.

•Return Location Quantity

The quantity stowed in the return location.

Position	Edit Criteria
1-2	Numeric

•Serial Fidelity Code

Code which classifies the suitability of training hardware by Serial Number.

Position	Edit Criteria
1-2	Numeric

•Serial No.

The unique number (or designator) assigned to one physical hardware item to identify it apart from all like items. This is unique within an Item Number or Part Number. Whenever the first character position of the field contains the special character, *, this value becomes a "lot number" for non-serialized equipment.

Position	Edit Criteria
1-14	None

•Shelf Life

The total time in months during which an item delivered for flight use can remain inactive and still be usable.

Position	Edit Criteria
1-2	Numeric

•Shelf Life Expiration Date

The date on which an item is no longer considered ready for flight without refurbishment.

Position	Edit Criteria
1-6	A date in the form MMDDYY

•SLCN Date

The date on which a Stowage List Change Notice is officially approved by the Configuration Control Board.

Position	Edit Criteria
1-6	A date in the form MMDDYY

•SLCN Description

Statement reflecting a change or reason for change in an item for a particular flight. If the SLCN applies to more than one Item or Flight this Description is unique to the Item/Flight only (i.e., if an SLCN changes two Items for the same flight, the SLCN Number and Date will be the same for both Items, however, the description will be unique to each Item).

Position	Edit Criteria
1-120	Alphanumeric

•SLCN Number

The unique number assigned to the Flight Configuration Change Control documentation (Stowage List Change Notice). This documentation reflects a change in an Item for a particular flight. One SLCN Number may apply to many Flight/Items.

Position	Edit Criteria
1-4	Numeric

•Specification Weight

The item weight in pounds to nearest hundredth of a pound.

Position	Edit Criteria
1-3	Numeric
4	.
5-6	Numeric

•Time Life Remaining

The amount of cumulative lifetime of use remaining for the item.

Position	Edit Criteria
1-3	Numeric
4	D--days
	H--hours

•Total Operational Quantity

The total number of a particular Item needed for operational purposes for a flight.

Position	Edit Criteria	Use
1-2	Numeric	Quantity

•Total Payload Quantity

The total number of a particular payload item needed for payload purposes for a flight.

Position	Edit Criteria	Use
1-2	Numeric	Quantity

•Training Part Number (TNGPN)

The number used by E&D to track training hardware parts.

Position	Edit Criteria
1-20	None

•Unit of Issue

A standardized code showing the units by which an item is measured and issued.

Position	Edit Criteria
1-2	Must match an allowable unit in table.

•Unit Serial Number Weight

The weight in pounds for a serial numbered item.

Position	Edit Criteria
1-3	Numeric
4	.
5-6	Numeric

•Width

The width or diameter in inches of the item (to nearest hundredth).

Position	Edit Criteria
1-2	Numeric
3	.
4-5	Numeric
6	"D" for diameter or blank for width

•Work Order Number

The number of the document authorizing work to be done on an item.

Position	Edit Criteria
1-6	Alphanumeric

DATA ELEMENT SUMMARY

NAME	NOMEN	TYPE	SIZE
AUTHORITY DOCUMENT	AUTH	A/N	12
BUILDING LOCATION	BLOC	A/N	12
BUILDING LOCATION QTY	BLOCQ	N	2
BUILDING 36 ACCOUNT.	B36/ACT	N	4
CABINET LOCATION	CLOC	A/N	6
CABINET LOCATION QTY	CLOCQ	N	2
CLASS CODE	CC	N	2
CONTRACT NUMBER	CN	A/N	8
CURRENT BLDG 36 INVENTORY	B36/INV	N	4
CURRENT OTHER INVENTORY	OTH/INV	N	4
CURRENT WEIGHT (E/A)	CURWT	A/N	7
CYCLE LIFE	CLIFE	N	5
CYCLE LIFE REMAINING	CLIFER	N	5
DUE DATE	DUEDT	N	6
ENGINEERING NOMENCLATURE	NOMEN	A/N	40
EXPECTED DELIVERY TO 36	RETB36	N	6
FIT CHECK COMPLETE FLAG	FITCPT	A/N	1
FIT CK. REQUIREMENT FLAG	FITREQ	A	1
FLIGHT NUMBER	FLT	A/N	5
FUNCTION/SYSTEM CLASS	F/SCLS	A/N	15
HARDWARE TRANSFER DATE	XFERDT	N	6
HEIGHT	H	A/N	5
ISSUE DATE	IDATE	N	6
ITEM NUMBER	IN	A/N	12
LANDING SITE DISPOSITION	LDISP	A/N	4
LAUNCH LOCATION	LLOC	A	6
LAUNCH LOCATION QTY	LLOCQ	N	2
LENGTH	L	A/N	5
MINIMUM B36 INV. REQ.	B36/REQ	N	3
MIN REQ FID CODE A	MRFCA	N	2
MIN REQ FID CODE B	MRFCB	N	2
MIN REQ FID CODE C	MRFCC	N	2
MIN REQ FID CODE D	MRFCD	N	2
MIN REQ FID CODE E	MRFCE	N	2

FIGURE 3.2

DATA ELEMENT SUMMARY (CONTINUED)

NAME	NOMEN	TYPE	SIZE
NOTE	NOTE	A/N	120
NOTE NUMBER	NOTE NO	A/N	4
OPERATING TIME LIFE	TLIFE	A/N	4
ORBIT LOCATION	OLOC	A/N	6
ORBIT LOCATION QTY	OLOCQ	N	2
ORBITER	ORB	A/N	5
PART NUMBER	PN	A/N	20
PHASE	PHASE	A	1
POST FLIGHT DISPOSITION	PDISP	A/N	15
PROCEDURAL NOMENCLATURE 1	PNOM1	A/N	40
PROCEDURAL NOMENCLATURE 2	PNOM2	A/N	40
PROGRAM CODE	PROG	A/N	2
REFURBISHMENT TIME	REF/T	N	2
REPLACEMENT LEAD TIME	REP/T	N	2
RESPONSIBLE ORGANIZATION	RO	A/N	4
RETURN LOCATION	RLOC	A/N	6
RETURN LOCATION QTY	RLOCQ	N	2
SERIAL FIDELITY CODE	SFICOD	A/N	2
SERIAL NUMBER	SER NO	A/N	14
SHELF LIFE	SLIFE	N	2
SHELF LIFE EXPIRATION D	SLIFEX	N	6
SLCN DATE	SLCNDT	N	6
SLCN DESCRIPTION	SLCND	A/N	120
SLCN NUMBER	SLCN	N	4
SPECIFICATION WEIGHT	WT	A/N	6
TIME LIFE REMAINING	TLIFER	A/N	4
TOTAL OPERATIONAL QTY	OQTY	N	2
TOTAL PAYLOAD QUANTITY	PQTY	N	2
TRAINING PART NUMBER	TNGPN	A/N	20
UNIT OF ISSUE	UI	A	2
UNIT SERIAL NUMBER WEIGHT	USWGT	A/N	6
WIDTH	W	A/N	6
WORK ORDER NUMBER	WON	A/N	6

FIGURE 3.2 (CONTINUED)

4.0 INPUT/OUTPUT DESCRIPTIONS

4.1 Interactive Input/Output

Two types of displays are needed for this application: (1) to update the data base and (2) to input query data and show the results of the queries.

All displays will use the first three lines for communication and control of the application program by the user. The formats for these displays are made to appear by entering a two-digit code on line one. On multiple page displays the user can request any page of the display report by entering a page option on line one typing directly over the display code field. The display code must be input first. The general format of the first line of the display is given below.

Where XX is the unique code identifying the display format required and AC ' ' is the action code field. N is the number of the current page being displayed and M is the total number of pages of the display. The page option may be entered at XX after the display code has been requested.

When specifying a page command the first entry must be 'P' followed by the page option. The options available are:

Blank - Implies value of 1
I - Any number less than or equal to the total number of pages
+ - Next page
- - Previous page

The unique codes for the displays are:

01 Basic Data
02 Serial Data
03 Flight Configuration Definition
04 Flight Location/Serial Configuration Data
05 Flight SLCN History
06 Function/System Classification Query

07 Location Inventory Query
08 Flight Configuration Change Query
09 Serial History Query

Messages to the user will appear on the last line of the display.

4.1.1 Displays: All update displays will have an action code to direct processing of the data being input. Also, key data elements are associated with each of the displays and are always required as input by the user. The action codes are:

A--Add the display key element to the data base. Other data may be included at the same time.

C--Change existing data for the key element by adding, changing, or deleting element values. A delete character, !, for individual elements is needed to delete an element value; when used, it is entered in the first character position of the field being deleted.

D--Delete the display key element and all of its associated data from the data base.

R--Retrieve the existing data for a key element.

The program will remove the Action Code from the display with each transmission of data by the user. A format is given for each display.

4.1.1.1 Basic Data (Display 01). The format for this display is shown in Figure 4.1.1.1. The user will always enter an Item Number or a Part Number or a Training Part Number as the key element.

Processing Rules

1. An action code of R will retrieve existing basic data for the specified key element if any exists, otherwise an error message will result.

2. An action code of A will add the key element and any other basic data on the display to the data base. If the key element duplicates an existing value, an error message will result and no action will be taken.

3. An action code of C will allow any of the basic data elements to be changed, added, or deleted. The delete character will delete an element.

4. An action code of D will cause the key element and all of its basic and serial data to be deleted. A history entry will be generated for each serial entry deleted.

5. The 40 character engineering nomenclature will appear as two fields of 20 characters each on the display to allow user controlled segmentation. Procedural nomenclature fields will appear the same way.

6. The 120 character note field will appear as two fields of 60 characters each on the display.

7. The key data element may have a maximum of six notes. All notes will be updated by the following action codes:

AN--Attach an existing note to the key data
CN--Allow the note number text to be changed
DN--Delete the note number. If it is the last reference to the note number then the note will automatically be deleted from the data base
NN--Add a new note number and text. If the note number duplicates an existing note number, an error message will result and no further action will be taken.

```
01 A/C                    SLAHTS BASIC DATA          PAGE     OF
PN                        IN                         DATE
TNGPN

ENGR NOMEN
PNOM1
PNOM2
RESPONSIBLE ORG      LENGTH          SHELF LIFE
MIN BLDG 36 REQ      WIDTH           OP TIME LIFE
REP LEAD TIME        HEIGHT          CYCLE LIFE
REFURB TIME          CURRENT WT      UNIT OF ISSUE
PROGRAM CODE         SPEC WT         FIT CK REQ
MIN REQ FCODE A      F/S CLASS
MIN REQ FCODE B      F/S CLASS
MIN REQ FCODE C      F/S CLASS
MIN REQ FCODE D      F/S CLASS
MIN REQ FCODE E

SLCN NO.        SLCN DATE          SLCN FLIGHT
DES.

NOTE NO.        NOTE AC
NOTE

NOTE NO.        NOTE AC
NOTE

NOTE NO.        NOTE AC
NOTE

NOTE NO.        NOTE AC
NOTE

NOTE NO.        NOTE AC
NOTE
```

(BASIC DATA DISPLAY)
(FIGURE 4.1.1.1)

4.1.1.2 Serial Data (Display 02). The format for this display is shown in Figure 4.1.1.2. The user will always enter a Serial Number (or Lot Number) and either an Item Number or a Part Number or a Training Part Number as key data elements.

Processing Rules

1. An action code of R will retrieve existing serial data for that individual hardware item if any exists. The key data elements must exist, or an error message will result. Some basic data will also be displayed.

2. An action code of A will add the Serial Number and any other serial data on the display. If the Serial Number duplicates an existing value for the item, or if the Item number or Part number or Training Part Number does not exist, an error message will result and no action will be taken.

3. An action code of C will allow any of the serial data set elements to be changed, added, or deleted (except the Serial Number). The delete character will delete an element.

4. An action code of D will cause the Serial Number and all of its serial data to be deleted. A history entry for this Serial Number will be generated.

5. A maximum of six building locations will be allowed. For lot numbered (non-serialized) items there will be a maximum of three cabinet locations allowed per building location.

6. A history update is created when the class code value is changed to 3A.

```
  02 A/C ' ' SERIAL DATA FOR SERIAL '                  '      PAGE     OF
  PN '                        ' IN '             '              DATE
  TNGPN '                         '

  ENGR NOMEN '                    '                    '
  CLASS CODE ' '                  FIT CK COMP ' '
  EXP DELIVERY TO B36  '      '   LAST ISSUE DATE '      '
  TIME LIFE REMAINING  '     '    WORK ORDER NO.  '     '
  CYCLE LIFE REMAINING '      '   CONTRACT NO.    '       '
  SHELF LIFE REMAINING '       '  UNIT SERIAL WT. '      '
  AUTHORITY DOC '             '   FIDELITY CODE ' '

BLDG LOCATION  QTY        BLDG LOCATION  QTY        BLDG LOCATION  QTY
'             ' ' '       '             ' ' '       '             ' ' '
CABINET    QTY  XFERDT    CABINET    QTY  XFERDT    CABINET    QTY  XFERDT
'      ' ' ''      '      '      ' ' ''      '      '      ' ' ''      '
'      ' ' '              '      ' ' '              '      ' ' '
'      ' ' '              '      ' ' '              '      ' ' '


BLDG LOCATION  QTY        BLDG LOCATION  QTY        BLDG LOCATION  QTY
'             ' ' '       '             ' ' '       '             ' ' '
CABINET    QTY  XFERDT    CABINET    QTY  XFERDT    CABINET    QTY  XFERDT
'      ' ' ''      '      '      ' ' ''      '      '      ' ' ''      '
'      ' ' '              '      ' ' '              '      ' ' '
'      ' ' '              '      ' ' '              '      ' ' '


  ACTION CODE ' '   AUTHORITY DOCUMENT '             '

  SHIPPING DATA                       RECEIVING DATA

    ISSUE DATE '      '                 XFER DATE '      '
    BLDG '            '                 BLDG '             '
    DUE DATE '      '
    QTY  ' '                            QTY  ' '
    DESTINATION '          '

    CABINET   QTY                       CABINET   QTY
   '      ' ' '                        '      ' ' '
   '      ' ' '                        '      ' ' '
   '      ' ' '                        '      ' ' '
```

(SERIAL DATA DISPLAY)
(FIGURE 4.1.1.2)

7. Hardware tracking moves may be recorded by the use of hardware action codes and an authority document. The old value for Authority Document is simply replaced by the new value. The effects of such movement of an item on the history update file and suspense file are shown by the following chart.

Hardware Action Code	Description	Creates History Update	Creates Suspense Entry	Removes Suspense Entry	Display Action Code	Comments
MH	Move Hardware		X		C	
RH	Receive Hardware	X		X	C	
AH	Add Hardware	X			A,C	
CT	Cancel Tracking	X			C	
RS	Retrieve Suspense File Entry			X	R	Input Authority Document

Where:
Move Hardware (MH) action code will accept shipping data and create a suspense file entry. The issue date must be the current date or precede the current date, or an error message will result and no action will be taken.

Receive Hardware (RH) action code will accept receiving data, remove the entry from the suspense file, and update the history file. If the destination entry given at the issue date does not match the building location in the receiving data, a warning message will occur.

Add Hardware (AH) action code will allow the user to add hardware to the tracking system and create the initial history entry.

Cancel Tracking (CT) will cause the serial data to be removed from the data base after a history update is made.

Retrieve Suspense File Entry (RS) will remove an entry to the suspense file and restore the building and cabinet location values from which it was issued.

4.1.1.3 Flight Configuration Definition (Display 03). The format for this display is shown in Figure 4.1.1.3. The user will input the Flight Number and Item Number or Part Number as key data elements.

Processing Rules

1. An action code of R will retrieve the existing configuration for the specified key elements.

2. An action code of A will assign an Item Number to an existing Flight, or if the Flight Number does not exist, create a new Flight configuration.

3. An action code of C will allow any of the configuration data to be changed, added, or deleted. The delete character will delete an element.

4. An action code of D will remove the Item Number attachment from this Flight. Both Item Number and Flight must be supplied or an error message will appear. All Flight Configuration Data for this Item on the specified Flight will be purged from the data base.

5. SLCN data may only be entered on this display (see Display 05).

6. After a user assigns a new Launch Location/Qty, the program will automatically display this entry on the Flight Location/Serial Configuration Data Display (Display 04).

7. If the user removes an existing Launch Location/Qty, all of the Serial Numbers assignments for that entry (see Display 04) will be removed.

8. A special action code of P will cause the Flight Number and all of its associated configuration data to be deleted from the data base. An error message will appear if both Flight Number and Item Number are entered and no action will be taken.

03 A/C IN | FLIGHT | CONFIGURATION DEFINITION PN | PAGE DATE | OF

ORBITER NO.
ENGR NOMEN
TOTAL PAYLOAD QTY
TOTAL OPERATIONAL QTY | LANDING SITE DISPOSITION
POST FLIGHT DISPOSITION
SLCN NO. | SLCN DATE
DES.

LAUNCH LOCATION	QTY	ORBIT LOCATION	QTY	RETURN LOCATION	QTY

(FLIGHT CONFIGURATION DEFINITION DISPLAY)
(FIGURE 4.1.1.3)

4.1.1.4 Flight Location/Serial Configuration Data (Display 04). The format for this display is shown in Figure 4.1.1.4. The user will always enter a Flight Number, and an Item Number or Part Number, as key data elements.

Processing Rules

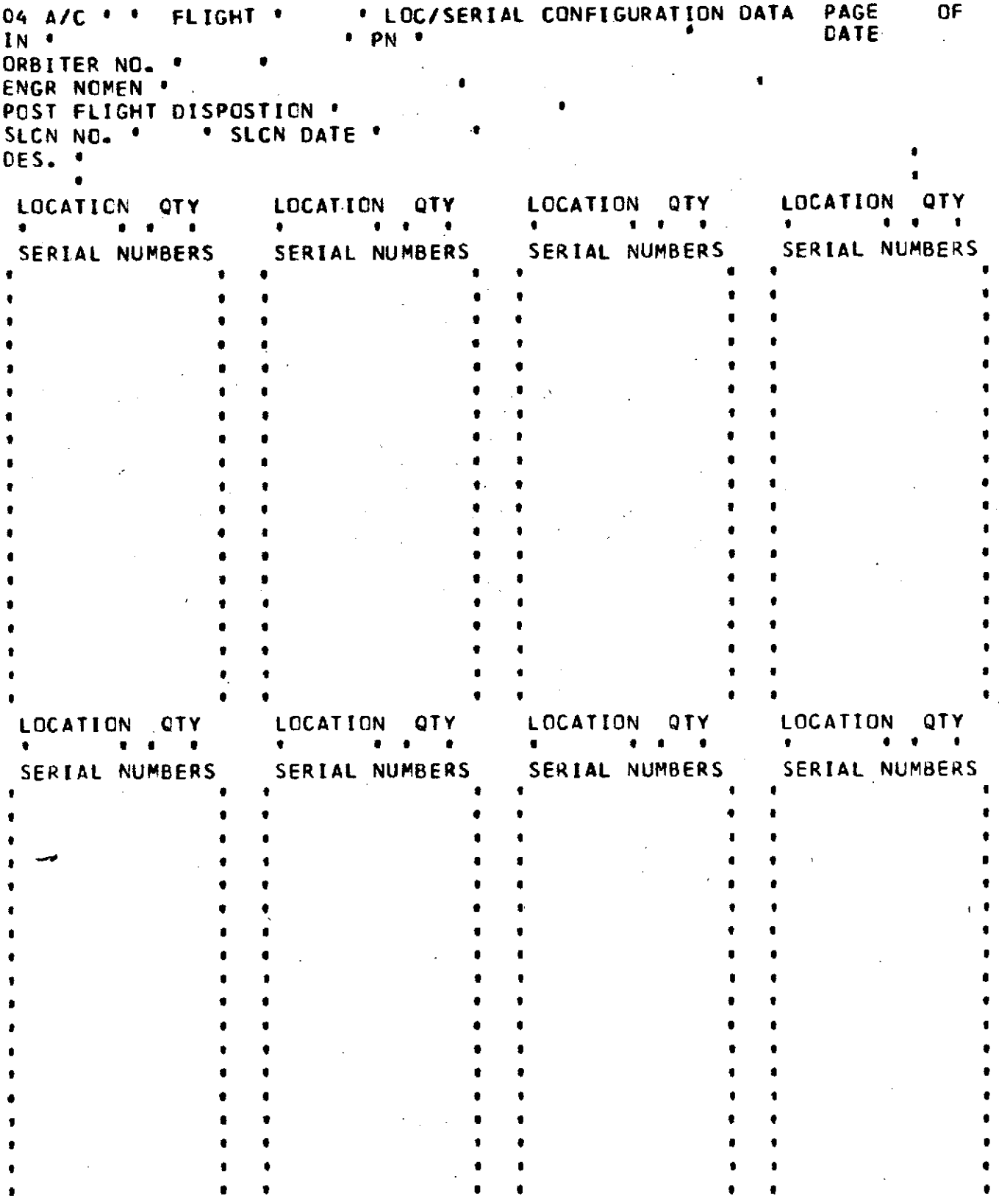
1. An action code of R will retrieve the existing configuration for the specified key elements, if any exists.

2. An action code of A will not be allowed.

3. An action code of D will not be allowed.

4. An action code of C will allow any of the configuration data elements (except key elements) to be changed, added, or deleted. The Location/Qty fields will be displayed by the program from information supplied by the user via Display 03. The Location/Qty reflects only Launch data from Display 03 and cannot be altered in any manner from this display. The delete character may be used to delete serial numbers only.

5. SLCN data may only be entered on this display.



(FLIGHT LOCATION/SERIAL CONFIGURATION DATA DISPLAY)
(FIGURE 4.1.1.4)

4.1.1.5 Flight SLCN History (Display 05). The format for this display is shown in Figure 4.1.1.5. The user will always input the Flight Number and Item Number or Part Number as key data elements.

Processing Rules

1. An action code of R will retrieve the existing SLCN data for the specified Item Number and Flight.

2. An action code of C will allow any of the SLCN data to be changed, added, or deleted. The delete character will delete an element.

3. The data are to be sequenced by SLCN Number.

4. An action code of A will be allowed only if no previous SLCN data have been entered for the Item on the specified Flight. This does not apply to SLCN Number itself which may be entered on another Item or Flight but only to the data fields associated with that number.

5. An action code of D will not be allowed.

```
05 A/C                    FLIGHT SLCN HISTORY          PAGE     OF
FLIGHT          IN                                     DATE
ORBITER NO.
ENGR NOMEN
PNOM2

SLCN NO. /
DATE                      SLCN DESCRIPTION
```

(FLIGHT SLCN HISTORY DISPLAY)
(FIGURE 4.1.1.5)

4.1.1.6 Function/System Classification Query (Display 06). The format for this display is shown in figure 4.1.1.6. The user will enter Flight Number and Function/System Classification code as key data elements.

Processing Rules

1. The program will display those items associated with the F/S classification code and Flight.

2. The following data elements come from the Item Basic Data Set.

Item Number
Part Number
Procedural Nomenclature 1

3. The following data element come from the Flight Configuration Data Set.

Launch Quantity

4. The output is alphabetically sequenced by Procedural Nomenclature 1.

```
06      SLAHTS FUNCTION/SYSTEM CLASSIFICATION QUERY      PAGE     OF
F/S CLASS CODE *                       *    FLIGHT *     *      DATE

ITEM NUMBER          PART NUMBER                 PNOM1'               LAUNCH
                                                                        QTY
XXXXXXXXXXXX    XXXXXXXXXXXXXXXXXXXX    XXXXXXXXXXXXXXXXXXXX   XX
                                        XXXXXXXXXXXXXXXXXXXX
```

(FUNCTION/SYSTEM CLASSIFICATION QUERY DISPLAY)
(FIGURE 4.1.1.6)

4.1.1.7 Location Inventory Query (Display 07). The format for this display is shown in Figure 4.1.1.7. The user will enter as key data elements the Flight and one of the following: Launch, Orbit, or Return Stowage Location.

Processing Rules

1. The program will display the inventory for the specified location and Flight.

2. The following data comes from the Basic Data Set.

   Part Number
   Procedural Nomenclature 2

3. The following data comes from the Flight Configuration Data Set.

   Item Number
   Launch Quantity

4. The output is sequenced by Item Number.

07 SLAHTS LOCATION INVENTORY QUERY PAGE OF
FLIGHT * * PHASE * * LOCATION * * DATE

ITEM NO	PART NUMBER	PNOM2	LOCATION QTY
XXXXXXXXXXX	XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XX

(LOCATION INVENTORY QUERY DISPLAY)
(FIGURE 4.1.1.7)

4.1.1.8 Flight Configuration Change Query (Display 08). The format for this display is shown in Figure 4.1.1.8. The users will enter the Flight Number and the SLCN start and end dates, as key data.

1. The program will display a summary of the Flight Configuration Changes which have been applied to the Data Base from the specified beginning date through the specified ending date. If the key data are not entered, an error message will occur and no further action will be taken.

2. The following data elements come from the Flight Configuration Data Set.

   Item Number
   SLCN Number
   SLCN Date

3. The output is sequenced by Item Number and subsequenced by Stowage List Change Notice Number.

4. If more than 500 SLCN Numbers (approximately 10 pages) are located between the start and end dates, the user will be requested to supply more restrictive dates. Processing of this display will then stop and no output will be returned to the user until the new dates are entered.

```
08        SLAHTS FLIGHT CONFIGURATION CHANGE QUERY          PAGE     OF
FLIGHT *      *   SLCN DATES *       * THRU *      *        DATE

ITEM NO.            SLCN NO.      DATE
 XXXXXXXXXXXXX        XXXX        XXXXXX
                      XXXX        XXXXXX
                      XXXX        XXXXXX
 XXXXXXXXXXXXX        XXXX        XXXXXX
                      XXXX        XXXXXX
                      XXXX        XXXXXX
 XXXXXXXXXXXXX        XXXX        XXXXXX
                      XXXX        XXXXXX
                      XXXX        XXXXXX
```

(FLIGHT CONFIGURATION CHANGE QUERY DISPLAY)
(FIGURE 4.1.1.8)

4.1.1.9 Serial History Query (Display 09). The format for this display is shown in Figure 4.1.1.9. The user will enter the Serial Number and either an Item Number or a Part Number or a Training Part Number as key data elements.

Processing Rule

This display is for retrieval purposes only. The set of history data entries which are stored on line for the item at that point in time will be displayed.

```
09 SERIAL •                  • HISTORY CUERY                          PAGE    OF
PN •                        • IN •           •                        DATE
TNGPN •                       •

ENGR NOMEN •                        •                    •
PNOM1  •                      •                    •

TIME LIFE •    •        TIME LIFE REMAINING  •     •
CYCLE LIFE•      •      CYCLE LIFE REMAINING •     •
PROG CODE •  •

DATE TRANSFERRED             LOCATION                        QTY   AUTHORITY DOC
                       FROM            TO
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
      XXXXXX       XXXXXXXXXXXX   XXXXXXXXXXXX      XX     XXXXXXXXXXXX
```

(SERIAL HISTORY QUERY DISPLAY)
(FIGURE 4.1.1.9)

4.2 Batch Input/Output

4.2.1 Edit Table Updates. The format for the edit table update card is shown in Figure 4.2.1.

Processing

The table to be updated is determined by the "table code" in the first two columns of the update card. The update function is determined from the code in column 3: "A"--"add;" "D"--"delete." A change is accomplished by a delete followed by an add. The data to be deleted and/or added must be coded beginning in column 4.

4.2.2 Batch Output Description. The following sections list the batch reports which are to be produced by the system. Each report is described in terms of what is input by the user and what processing is required. A format for each report is given. General turn around time for a report to be submitted and received is approximately 24 hours.

In general, all batch reports will show the date produced and will have page numbers. The user requesting the batch reports will be able to specify the output media. One part and multiple part paper as well as microfilm must be available for all batch report output.

Reports are generated based on user input on a punched card. A selection card format is given with each report, identifying columns (COL) and data entries (Description). Values in the data fields are left justified.

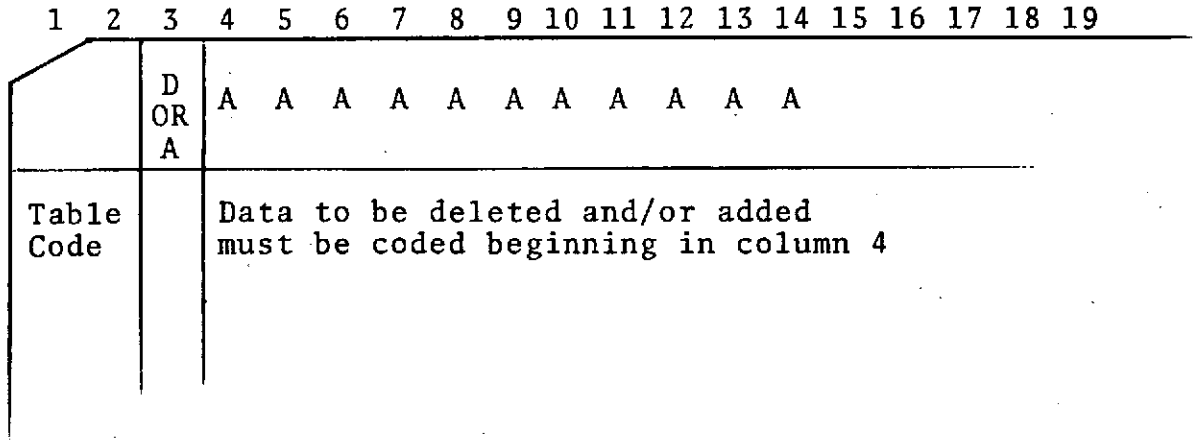


FIGURE 4.2.1 EDIT TABLE UPDATE CARD FORMAT

4.2.2.1 Stowage List Report (Report Number 01). The format for this report is shown in Figure 4.2.2.1. To request this report, the user will specify the flight and whether the report is to be sequenced by Item Number or Part Number or by Engineering Nomenclature.

Processing Rules

1. Within the report selected, the data is sequenced by Launch Location within Item Number.

2. The following data comes from the Basic Data Set:

   Engineering Nomenclature
   Part Number
   Specification Weight
   Current Weight
   Length
   Width
   Height

3. The following data comes from the Flight Configuration Data Set:

   Flight
   Orbiter
   Item Number
   Total Operational Quantity
   Total Payload Quantity
   Stowage Locations and Quantities
   Landing Site Disposition

4. The following data comes from the Note Data Set:

   Note Number
   Note

5. Only those note numbers beginning with A, B or C will be printed at the bottom of the page.

FLIGHT XXXXX REPORT NO. 01 STOWAGE LIST AND HARDWARE TRACKING SYSTEM STOWAGE LIST REPORT BY XXXXXXXXXXX PAGE DATE

ITEM NUMBER	ENGINEERING NOMENCLATURE PART NUMBER	UNIT SPEC WT.(LB.) DIMENSIONS	UNIT CURRENT WT. (LBS.) EST/ACT INCHES	TOTAL FLIGHT QUANTITY O	P	STOWAGE LOCATION L	)	R	LANDING SITE DISPO.	NOTES
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX	XXX.XX XX.XX XX.XXX	XXX.XXX XX.XX	XX	XX	XX XXXXXX	XX XXXXXX	XX XXXXX	XXXX	XXXX XXXX XXXX XXXX XXXX XXXX

ORIGINAL PAGE IS OF POOR QUALITY

NOTE TEXT
XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

(STOWAGE LIST REPORT)
(FIGURE 4.2.2.1)

6. Selection Card Format

Col	Description
1-2	Report Number
3-7	Fliqht Number
8	Sort Option 0 - Sort on Item Number 1 - Sort on Enqineerinq Nomenclature 2 - Sort on Part Number
9-14	Previous Stowaqe List Date, in the form of MMDDYY. If supplied, all SLCN data for this fliqht entered into the computer since the supplied date will be listed at the end of the report. The format used is described in Section 4.2.2.18.

7. The report headinq will indicate which sort option was specified.

8. This report is needed primarily for POO - Inteqration Division.

4.2.2.2 Logistics Management Report (Item Level) (Report Number 02). The format for this report is shown in Figure 4.2.2.2. This report will include Shuttle Operational Hardware only (Hardware for which an Item Number exists).

Processing Rules

1. The data for this report is sequenced by the Item Number.

2. The following calculation is to be performed:

   For flight hardware compute out of service value by subtracting Current Bldg. 36 Inventory and Current Other Inventory from Building 36 Accountability.

3. The following data comes from the Basic Data Set:

   Item Number
   Engineering Nomenclature
   Part Number
   Building 36 Accountability
   Current Bldg. 36 Inventory
   Current Other Inventory
   Minimum B36 Inventory Requirement
   Replacement Lead Time
   Refurbishment Time
   Shelf Life
   Operating Time Life
   Cycle Life

4. Selection Card Format

Col	Description
1-2	Report Number

5. This report is needed primarily for POO - Integration Division and SR&QA Quality Assurance Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 02 LOGISTICS MANAGEMENT (ITEM LEVEL)

PAGE
DATE

ITEM NUMBER	ENGINEERING NOMENCLATURE / PART NUMBER	DELIVERED TO BLDG. 36 ACCOUNT-ABILITY	CURRENT INVENTORY BLDG. 36	CURRENT INVENTORY OTHER LOCATIONS	CURRENT INVENTORY OUT-OF-SERVICE	MINIMUM BLDG. 36 INVENTORY REQMT.	REPL. LEAD TIME (WKS.)	REFURB TIME (WKS.)	SHELF LIFE (MONTHS)	OPER. TIME LIFE (HRS.)	CYCLE LIFE
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XXXX	XXXX	XXXX	XXXX	XXX	XX	XX	XX	XXXX	XXXXX

(LOGISTICS MANAGEMENT REPORT - ITEM LEVEL)
(FIGURE 4.2.2.2)

4.2.2.3 Logistics Management Report (Serial Number Level) (Report Number 03). The format for this report is shown in Figure 4.2.2.3. This report will include Orbiter Flight Hardware only. (Item Number exists and Class Code = 1A).

Processing Rules

1. The data for this report is sequenced by Item Number and subsequenced by Serial Number.

2. The following data comes from the Basic Data Set:

   Item Number
   Engineering Nomenclature
   Part Number

3. The following data comes from the Serial Data Set:

   Serial Number
   Building Location
   Building Location Quantity
   Hardware Transfer Date
   Operating Time Remaining
   Cycle Life Remaining
   Shelf Life Expiration Date
   Unit Serial Number Weight
   Expected Delivery to Bldg 36

4. Selection Card Format

Col	Description
1-2	Report Number

5. This report is needed primarily for POO - Integration Division and E&D - Spacecraft Design Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM PAGE
REPORT NO. 03 LOGISTICS MANAGEMENT (SERIAL NUMBER LEVEL) DATE

ITEM NUMBER	ENGINEERING NOMENCLATURE / PART NUMBER	SERIAL NO. DELIVERED TO BLDG. 36 ACCOUNT-ABILITY	CURRENT LOCATION QTY / DATE RECEIVED	EXPECTED DELIVERY TO BLD 36	OPERATING TIME LIFE REMAINING (HRS.)	CYCLE LIFE REMAINING	SHELF LIFE EXPIRATION DATE	UNIT SERIAL NUMBER WEIGHT (LBS)
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXX	XXXXXXXXXXX XX XXXXXX	XXXXXX	XXXX	XXXX	XXXXXX	XXX.XX

(LOGISTICS MANAGEMENT REPORT - SERIAL LEVEL)
(FIGURE 4.2.2.3)

4.2.2.4 Prepack Procedure Report (Report Number 04). The format for this report is shown in Figure 4.2.2.4. This report is requested by Flight.

Processing Rules

1. The data is sequenced by Launch Location, including page breaks for each new location value, and is subsequenced by Item Number and Serial Number.

2. The following data comes from the Basic Data Set:

   Engineering Nomenclature
   Part Number
   Controlled Fit Check
   Note Number
   Note

3. The following data comes from the Flight Configuration Data Set:

   Item Number
   Serial Number
   Orbiter
   Launch Location
   Launch Location Quantity

4. The following data comes from the Serial Data Set.

   Unit Serial Number Weight

5. Selection Card Format

Col	Description
1-2	Report Number
3-7	Flight Number

6. Only those notes beginning with the prefix D, E, or F will be printed at the bottom of the page.

7. This report is needed primarily for POO - Integration Division and SR&QA - Quality Assurance Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 04 PREPACK PROCEDURE

PAGE
DATE

FLIGHT XXXXX
ORBITER NO. XXXXX
KIT NO. PAGE OF
INST. DRAWING NO. AND REV.
LAUNCH LOCATION XXXXXX

LOCKER SERIAL NO.
TOTAL WT. (AS PACKED)
PREPACK COMPLETE
QA ACCEPTANCE-----

ITEM NUMBER	ENGINEERING NOMENCLATURE PART NUMBER	TOTAL LAUNCH QTY	SERIAL NUMBER	CONTROLLED FIT CHECK REQ'D	QA VERIF	UNIT WEIGHT (ACTUAL)	READY FOR PREPACK QA VERIF	PREPACK OK QA VERIF	NOTES		
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XX	XXXXXXXXXXXXX	YES		XXX.XX			XXXX XXXX	XXXX XXXX	XXXX XXXX
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XX	XXXXXXXXXXXXX XXXXXXXXXXXXX	NO		XXX.XX			XXXX XXXX	XXXX XXXX	XXXX XXXX

NOTE	TEXT
XXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

(PREPACK PROCEDURE REPORT)
(FIGURE 4.2.2.4)

4.2.2.5 Stowage Locker Report (Report Number 05). The format for this report is shown in Figure 4.2.2.5. To request this report, the user will specify the flight and phase or phases.

Processing Rules

1. The data on this report will be sequenced by phase, subsequenced by Location and sub-sequenced by Item Number. A page break will occur for each new Location.

2. The following data comes from the Basic Data set:

Engineering Nomenclature
Part Number
Current Weight
Length
Width
Height

3. The following data comes from the Flight Configuration Data Set:

Launch Location
Launch Location Quantity
Orbit Location
Orbit Location Quantity
Return Location
Return Location Quantity
Item Number
Orbiter

4. Selection Card Format

Col	Description
1-2	Report Number
3-7	Flight Number
8	Phase Indicator L - Launch O - Orbit R - Return Blank - All phases for the Flight will be processed.

5. This report is needed primarily for POO - Integration Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 05 STOWAGE LOCKER

FLIGHT XXXXX
ORBITER NO. XXXX

PAGE
DATE
PHASE

ITEM NUMBER	PART NUMBER	ENGINEERING NOMENCLATURE	TOTAL FLIGHT QUANTITY	STOWAGE LOCATION	UNIT CURRENT WT. (LBS.) EST/ACT	DIMENSIONS (INCHES)
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX	XX	XXXXXX	XXX.XXX	XX.XX XX.XXX XX.XX

(STOWAGE LOCKER REPORT)
(FIGURE 4.2.2.5)

4.2.2.6 Master Bond Room Storage List (Report Number 06). The format for this report is shown in Figure 4.2.2.6.

Processing Rules

1. The data for this report is sequenced by Part Number and by Serial Number within Part Number and consists of data having class code 1A, 1B, and 2.

2. The report will be segmented by building number where bonded storerooms are located.

3. The non-active indicator is printed whenever the current (machine) date is one year greater than the last Issue Date.

4. The following data comes from the Basic Data Set:

Part Number
Engineering Nomenclature
Class Code
Responsible Organization
Program Code
Unit of Issue

5. The following data comes from the Serial Data Set:

Serial Number
Building Location
Cabinet Location
Cabinet Location Quantity
Shelf Life Expiration Date
Work Order Number
Contract
Issue Date

6. Selection Card Format

Col	Description
1-2	Report Number

7. This report is needed primarily for SR&QA - Quality Assurance Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 06 MASTER BOND ROOM STORAGE LIST
BUILDING XXXXXXXXXXX

PAGE
DATE

PART NUMBER SERIAL NUMBER	LOCATION	QUANTITY ON HAND	UNIT OF ISSUE	ENGINEERING NOMENCLATURE	EQUIP CLASS SHELF LIFE X-DATE	LAST ISSUE DATE	PROGRAM RESPONSIBLE ORGANIZATION	WORK ORDER CONTRACT	NON ACTIVE
XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXX	XXXXXXXXXXX	XX	XX	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX	XX XXXXXX	XXXXXX	XX XXXX	XXXXXX XXXXXXXX	*

(MASTER BOND ROOM STOWAGE LIST)
(FIGURE 4.2.2.6)

4.2.2.7 Post Flight Disposition Report (Report Number 07). The format for this report is shown in Figure 4.2.2.7. To request this report, the user will specify the Flight.

Processing Rules

1. The data selected will be those items having a Landing Site Disposition of "JSC."

2. The data will be sequenced by Responsible Organization and subsequenced by Item Number. A page break will occur for each new Responsible Organization.

3. The following data comes from the Flight Configuration Data Set:

Flight
Orbiter
Post Flight Disposition
Item Number
Serial Number
Return Location
Return Location Quantity

4. The following data comes from the Basic Data Set:

Engineering Nomenclature
Part Number
Responsible Organization

5. Selection Card Format

Col	Description
1-2	Report Number
3-7	Flight Number

6. This report is needed primarily for POO - Integration Division and SR&QA - Quality Assurance Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 07 POST FLIGHT DISPOSITION
JSC

FLIGHT XXXXX ORBITER XXXXX

PAGE
DATE
RESPONSIBLE ORGANIZATION

ITEM NUMBER	ENGINEERING NOMENCLATURE PART NUMBER	TOTAL RETURN QUANTITY	RETURN STOWAGE LOCATION	SERIAL NUMBER	POST FLIGHT DISPOSITION REQMTS	BLDG 36 QA VERIF	REMARKS
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX	XX	XXXXXX	XXXXXXXXXXXXX	XXXXXXXXXXXXX		

(POST FLIGHT DISPOSITION REPORT)
(FIGURE 4.2.2.7)

4.2.2.8 Nomenclature Definition Report (Report #08). The format for this report is shown in Figure 4.2.2.8. This report will include Orbiter Flight Hardware only (Item Number exists).

Processing Rules

1. This report is sequenced by Item Number.

2. The following data comes from the Basic Data set.

   Item Number
   Engineering Nomenclature
   Function/System Classification
   Part Number
   Procedural Nomenclature 1
   Procedural Nomenclature 2

3. Selection Card Format

Col	Description
1-2	Report Number

4. This report is needed primarily for FOD.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 08 NOMENCLATURE DEFINITION

PAGE
DATE

ITEM NUMBER	PART NUMBER	ENGINEERING NOMENCLATURE	PROCEDURAL NOMENCLATURE1	PROCEDURAL NOMENCLATURE 2	FUNCTION/SYSTEM CLASSIFICATION	
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXX	XXXXXXXXXXX
		XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXX	XXXXXXXXXXX

(NOMENCLATURE DEFINITION REPORT)
(FIGURE 4.2.2.8)

4.2.2.9 Alphabetical Procedural Nomenclature Report (Report #09). The format for this report is shown in Figure 4.2.2.9. The user may input the Flight Number and must specify Sort Option. If the user does not input Flight number the program will search for all items having a Procedural Nomenclature 1 and/or Procedural Nomenclature 2, depending on the Sort Option. See processing rules.

Processing Rules

1. This report is sequenced according to the sort option specified.

Sort Option	Process
0	Sorts all PNOM1 and PNOM2 values and merges the two sequenced lists according to the PNOM1 and PNOM2 fields. If PNOM1 and PNOM2 are identical, the printing of PNOM2 is suppressed.
1	Sorts and prints PNOM1 values and associated data.
2	Sorts and prints PNOM2 values and associated data.

The heading of the report will reflect which sort option is used.

2. The following data comes from the Basic Data set:

Item Number
Part Number
Note Number
Function/System Classification

3. The following data comes from the Flight Configuration Data set:

Launch Location
Launch Location Quantity
Orbit Location
Orbit Location Quantity
Return Location
Return Location Quantity

FLIGHT XXXXX

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 09 ALPHABETICAL PROCEDURAL NOMENCLATURE XXXXX

PAGE
DATE

PROCEDURAL NOMENCLATURE	QUANTITY LAUNCH LOCATION	QUANTITY ORBITAL LOCATION	QUANTITY RETURN LOCATION	ITEM NUMBER	PART NUMBER	FUNCTION/SYSTEM CLASSIFICATION	NOTE NUMBER
XXXXXXXXXXXXXXXXXX	XX	XX	XX	XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXX	XXXX XXXX XXXX
XXXXXXXXXXXXXXXXXX	XXXXXX	XXXXXX	XXXXXX			XXXXXXXXXXXXXX	XXXX XXXX XXXX
						XXXXXXXXXXXXXX	
						XXXXXXXXXXXXXX	

(ALPHABETICAL PROCEDURE NOMENCLATURE REPORT)
(FIGURE 4.2.2.9)

Printing of these data elements is suppressed when a Flight is not specified.

4. Selection Card Format

Col	Description
1-2	Report Number
3-7	Flight Number Blank - All Item Numbered Entries having a PNOM1 and/or PNOM2 will be processed
8	Sort Option 0 - Sorts on PNOM1 and PNOM2 1 - Sorts on PNOM1 only 2 - Sorts on PNOM2 only

5. This report is needed primarily for POD.

4.2.2.10 Flight Equipment Serial Number Report (Report #10). The format for this report is shown in Figure 4.2.2.10. The user may input the Flight Number for selection. If the user does not input Flight Number the program will print all items having a Procedural Nomenclature 2 and Serial Number.

Processing Rules

1. This report is sequenced by PNOM2 and subsequenced by Serial Number.

2. The following data comes from the Basic Data set:

   Item Number
   Procedural Nomenclature 2
   Part Number

3. The following data comes from the Serial Data set:

   Cycle Life Remaining
   Time Life Remaining

4. The following data comes from the Flight Configuration Data set:

   Serial Number
   Launch Location
   Launch Location Quantity

5. Selection Card Format

Col	Description
1-2	Report Number
3-7	Flight. If Blank then all Item Numbered entries having a Procedural Nomenclature 2 and Serial Number will be processed. If blank, Launch Location and Quantity will not be output. If a flight is specified, then all Serial Numbers assigned to the specified flight will be output.

6. This report is needed primarily for FOD.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM PAGE
FLIGHT XXXXX - REPORT NO. 10 FLIGHT EQUIPMENT SERIAL NUMBER DATE

ITEM NUMBER	PROCEDURAL NOMENCLATURE	PART NUMBER	QUANTITY LAUNCH LOCATION	SERIAL NUMBER	CYCLE LIFE REM	TIME LIFE REM
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XX XXXXXX	XXXXXXXXXXXXX	XXXXX	XXXX
				XXXXXXXXXXXXX	XXXXX	XXXX
				XXXXXXXXXXXXX	XXXXX	XXXX
				XXXXXXXXXXXXX	XXXXX	XXXX

(FLIGHT EQUIPMENT SERIAL NUMBER REPORT)
(FIGURE 4.2.2.10)

4.2.2.11 Flight Location/Equipment Report (Report #11). The format for this report is shown in Figure 4.2.2.11. The user will input the Flight Number and phase or phases.

Processing Rules

1. This report is sequenced by flight phase: Launch, Orbit, and Return. It is subsequenced within each phase by stowage location and by Procedural Nomenclature 2 within stowage location.

2. The following data comes from the Basic Data set:

   Item Number
   Procedural Nomenclature 2
   Part Number

3. The following data comes from the Flight Configuration Data set:

   Launch Location
   Launch Location Quantity
   Orbit Location
   Orbit Location Quantity
   Return Location
   Return Location Quantity

4. Selection Card Format

Col	Description
1-2	Report Number
3-7	Flight Number
8	Phase Indicator L - Launch O - Orbit R - Return Blank - All phases for the Flight will be processed

5. This report is needed primarily for POD.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM PAGE
REPORT NO. 11 FLIGHT LOCATION/EQUIPMENT DATE
FLIGHT XXXXX PHASE XXXXXX

LOCATION	ITEM NUMBER	PROCEDURAL NOMENCLATURE 2	QTY	PART NUMBER
XXXXXX	XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XX	XXXXXXXXXXXXXXXXXXX

(FLIGHT LOCATION EQUIPMENT REPORT)
(FIGURE 4.2.2.11)

4.2.2.12 Inflight Transfer List Report (Report #12). The format for this report is shown in Figure 4.2.2.12. The user will input the Flight Number.

Processing Rules

1. This report is sequenced by Flight and subsequenced by PNOM2.

2. There are two parts for this report. The first part contains those items whose Launch Location is different from the Orbit Location. The second part contains those items whose Orbit Location is different from the Return Location. Only those items so selected will appear.

3. The column headings for quantities and locations will change and a page break will be provided between parts of the report.

4. The following data comes from the Basic Data set:

Item Number
Procedural Nomenclature 2
Part Number

5. The following data comes from the Flight Configuration Data set:

Launch Location
Launch Location Quantity
Orbit Location
Orbit Location Quantity
Return Location
Return Location Quantity

6. Selection Card Format

Col	Description
1-2	Report Number
3-7	Flight Number.

7. This report is needed primarily for POD.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM PAGE
REPORT NO. 12 INFLIGHT TRANSFER LIST DATE
FLIGHT XXXXX
XXXXXX XX XXXXX

PROCEDURAL NOMENCLATURE	QUANTITY LOCATION	QUANTITY LOCATION	PART NUMBER	ITEM NUMBER
XXXXXXXXXXXXXXXXXXX	XX	XX	XXXXXXXXXXXXXXXXXXX	XXXXXX.XX.XX
XXXXXXXXXXXXXXXXXXX	XXXXXX	XXXXXX		

(INFLIGHT TRANSFER LIST REPORT)
(FIGURE 4.2.2.12)

4.2.2.13 Responsible Organization List (Report #13). The format for this report is shown in Figure 4.2.2.13.

Processing Rules

1. The data for this report is segmented by Responsible Organization. The data is then sequenced by Part Number and by Serial Number for all serial numbers having Class Code 1A, 1B, and 2. A page break will occur for each new Responsible Organization.

2. The non-active indicator will be printed whenever the current (machine) date is one year greater than the Last Issue Date.

3. Compute Quantity on Hand for non-serialized (lot numbered) items by adding all building quantities.

4. The following data comes from the Basic Data set:

   Part Number
   Engineering Nomenclature
   Program Code
   Unit of Issue

5. The following data comes from the Serial Data set:

   Serial Number
   Work Order
   Contract
   Class Code

6. Selection Card Format

Col	Description
1-2	Report Number

7. This report is needed by SR&QA - Quality Assurance Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 13 MASTER LIST BY RESPONSIBLE ORGANIZATION XXXX

PAGE
DATE

PROGRAM	WORK ORDER	CONTRACT	PART NUMBER	SERIAL NUMBER	ENGINEERING NOMENCLATURE	QTY ON HAND	UNIT OF ISSUE	NON ACT
XX	XXXXXX	XXXXXXXX	XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXXX	XX	*

(RESPONSIBLE ORGANIZATION LIST)
(FIGURE 4.2.2.13)

4.2.2.14 Shelf Life Expiration List (Report #14). The format for this report is shown in Figure 4.2.2.14.

Processing Rules

1. This report is segmented by Building Location. The data is sequenced by Part Number and by Serial Number for all serial numbers having Class Code 1A, 1B, and 2. Only those data elements having a Shelf Life Expiration Date preceding the current date will be printed.

2. Compute Quantity on Hand for non-serialized (lot numbered) items by adding all cabinet quantities.

3. The following data comes from the Basic Data set:

   Part Number
   Engineering Nomenclature
   Unit of Issue
   Responsible Organization

4. The following data comes from the Serial Data set:

   Serial Number
   Cabinet Location
   Cabinet Location Quantity
   Shelf Life Expiration Date
   Class Code

5. Selection Card Format

Col	Description
1-2	Report Number

6. This report is needed primarily for SR&QA - Quality Assurance Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 14 SHELF LIFE EXPIRATION LIST
BUILDING XXXXXXXXXXX

PAGE
DATE

PART NUMBER	LOCATION	SERIAL NUMBER	ENGINEERING NOMENCLATURE	QTY ON HAND	UNIT OF ISSUE	RESP ORG	SHELF LIFE X-DATE
XXXXXXXXXXXXXXXXXX	XXXXXX	XXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XX	XX	XXXX	XXXXXX

(SHELF LIFE EXPIRATION LIST)
(FIGURE 4.2.2.14)

4.2.2.15 Item History Report (Report #15). The format for this report is shown in Figure 4.2.2.15. The user must specify selection option indicating whether the program will be sequenced by Part Number or Training Part Number.

Processing Rules

1. This report is sequenced by Part Number or Training Part Number and by Serial Number and subsequenced by transfer date. Only those entries for each Item Number or Part Number or Training Part Number which are purged will be listed (see Data Base History, section 5.2).

2. An Item Number/Part Number or Training Part Number cross reference for those history entries having an Item Number will appear at the end of the report.

3. The following data comes from the Basic Data set:

Item Number
Part Number
Engineering Nomenclature
Training Part Number
Program Code
Training Part Number

4. The following data comes from the Serial History Data set:

Serial Number
From/To Building Locations
Authority Document
Hardware Transfer Date

5. Selection Card Format

Col	Description
1-2	Report Number
3	Selection Option 0 - Part Number 1 - Training Part Number

The report heading will indicate the sort option.

6. This report is needed primarily for POO - Integration Divison, SR&QA - Quality Assurance Division, and E&D - Spacecraft Design Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 15 ITEM HISTORY XXXXXXXXX

PAGE
DATE

ITEM NUMBER	PART NUMBER	ENGINEERING NOMENCLATURE	SERIAL NUMBER	LOCATION FROM	LOCATION TO	AUTHORITY DOCUMENT	HRDW DATE	PROG CODE
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXXX	XXXXXX	XX

(ITEM HISTORY REPORT)
(FIGURE 4.2.2.15)

4.2.2.16 Annual Inventory List (Report #16). The format for this report is shown in Figure 4.2.2.16.

Processing Rules

1. The report is segmented by Building Location. The data is sequenced by Cabinet Location, by Part Number, and by Serial Number for all serial numbers not having Class Code 3B. Output lines will be double spaced.

2. Compute Quantity on Hand for non-serialized (lot numbered) items by adding all cabinet quantities.

3. The following data comes from the Basic Data set:

   Part Number
   Engineering Nomenclature
   Unit of Issue
   Program Code

4. The following data comes from the Serial Data set:

   Serial Number
   Cabinet Location
   Cabinet Location Quantity
   Work Order
   Contract
   Class Code

5. Selection Card Format

Col	Description
1-2	Report Number

6. This report is needed primarily for SR&QA - Quality Assurance Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 16 ANNUAL INVENTORY LIST
BUILDING XXXXXXXXXXXX

PAGE
DATE

LOCATION	PART NUMBER	SERIAL NUMBER	QTY ON HAND	UNIT OF ISSUE	ENGINEERING NOMENCLATURE	WORK ORDER	CONTRACT	PROG	REMARKS
XXXXXX	XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXX	XXXX	XX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XXXXXX	XXXXXXXX	XX	
XXXXXX	XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXX	XXXX	XX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XXXXXX	XXXXXXXX	XX	
XXXXXX	XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXX	XXXX	XX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XXXXXX	XXXXXXXX	XX	

(ANNUAL INVENTORY LIST)
(FIGURE 4.2.2.16)

4.2.2.17 Function/System Classification (Report Number 17). The format for this report is shown in Figure 4.2.2.17. The user may input the Flight number. If Flight number is not input then all data having a Function/System Classification and Item Number will be processed and Launch Quantity will not be computed.

Processing Rules

1. This report will be sequenced by Function/System Classification and Item Numbers.

2. Compute Launch Quantity by adding Total Operational Quantity and Total Payload Quantity. Printing of this quantity is suppressed when Flight is not input.

3. The following data comes from the Basic Data:

Function/System Classification
Item Number
Procedural Nomenclature 2
Part Number
Note Number

4. Selection Card Format

Col	Description
1-2	Report Number
3-7	Flight Number. If blank, then all items will be listed.

5. This report is needed primarily for FOD.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 17 FUNCTION/SYSTEM CLASSIFICATION
FLIGHT XXXXX

PAGE
DATE

FUNCTION/SYSTEM CLASSIFICATION	PROCEDURAL NOMENCLATURE	ITEM NUMBER	PART NUMBER	FUNCTION/SYSTEM CLASSIFICATION		QTY	NOTE NUMBER
XXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX	XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXX XXXXXXXXXXXXXX	XXXXXXXXXXXXXX XXXXXXXXXXXXXX	XX	XXXX XXXX XXXX XXXX XXXX XXXX

(FUNCTION/SYSTEM CLASSIFICATION)
(FIGURE 4.2.2.17)

4.2.2.18 Stowage List Change Notice Report (Report Number 18). The format is shown in Figure 4.2.2.18. The user will input the Flight Number.

Processing Rules

1. The report will be sequenced by SLCN number.

2. The following data comes from the Configuration Data set.

   SLCN Number
   SLCN Date
   SLCN Description
   Item Number

3. The Engineering Nomenclature is from the Basic Data Set.

4. Selection Card Format

Col	Description
1-2	Report Number
3-7	Flight Number
8-15	Selection Date in the form of MMDDYYYY. If left blank, all SLCN data for the specified flight will be listed. If a date is supplied, only the SLCN data entered since that date will be output.

5. This report is needed primarily for POO - Integration Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM PAGE
REPORT NO. 18 STOWAGE LIST CHANGE NOTICE DATE
FLIGHT XXXXX

STOWAGE LIST CHANGE NOTICE	APPROVAL DATE	ITEM NUMBER	ENGINEERING NOMENCLATURE	SLCN DESCRIPTION
XXXX	XXXXXX	XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
XXXX	XXXXXX	XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

(STOWAGE LIST CHANGE NOTICE REPORT)
(FIGURE 4.2.2.18)

4.2.2.19 Equipment Class 3 Report (Report Number 19). The format for this report is shown in Figure 4.2.2.19.

Processing Rules

1. This report contains only those items placed in Class Code 3A category since the last report was printed.

2. The report will be sequenced by Part Number and subsequenced by Serial Number.

3. The following data comes from the Basic Data set.

Responsible Organization
Part Number
Program Code
Engineering Nomenclature
Unit of Issue

4. The following data comes from the Serial Data set:

Serial Number
Building Location Quantity
Contract Number
Work Order Number

5. Selection Card Format

Col	Description
1-2	Report Number

6. This report is needed primarily for SR&QA - Quality Assurance Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 19 EQUIPMENT CLASS 3

PAGE
DATE

PART NUMBER	SERIAL NUMBER	DATE	RESP ORG	ENGINEERING NOMENCLATURE	QTY	UNIT OF ISSUE	WORK ORDER	CONTRACT	PROGRAM
XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXX	XXXXXX	XXXX	XXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX	XX	XX	XXXXXX	XXXXXXXX	XX

(EQUIPMENT CLASS 3 REPORT)
(FIGURE 4.2.2.19)

4.2.2.20 Training Hardware Requirements and Status (Report Number 20). The format is shown in Figure 4.2.2.20.

Processing Rules

1. This report is sequenced by Item Number.

2. The Shortage is equal to the Minimum Requirement Fidelity Code for a certain Serial Fidelity Code minus the quantity on hand having that particular Serial Fidelity Code.

3. The following data comes from the Basic Data Set:

Item Number
Engineering Nomenclature
Part Number
Training Part Number
Minimum Requirement Fidelity Code A
Minimum Requirement Fidelity Code B
Minimum Requirement Fidelity Code C
Minimum Requirement Fidelity Code D
Minimum Requirement Fidelity Code E
Responsible Organization
Procedural Nomenclature 2

4. Selection Card Format

Col	Description
1-2	Report Number

5. This report is needed primarily for E&D - Spacecraft Design Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 20 TRAINING HARDWARDWARE REQUIREMENTS AND STATUS

PAGE
DATE

ITEM NUMBER	PART NUMBER	ENGINEERING NOMENCLATURE	TRAINING PART NUMBER	FID COD	QTY REQ	QTY ON HAND	SHORT	PROCEDURAL NOMENCLATURE 2	SUPPLIER
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXX	A B C D E	XX	XX	XX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XXXXXXXXXX)

(TRAINING HARDWARE REQUIREMENTS AND STATUS)
(FIGURE 4.2.2.20)

4.2.2.21 Training Hardware Master Inventory Report (Report Number 21). The format for this report is shown in Figure 4.2.2.21.

Processing Rules

1. This report is sequenced by Training Part Number and contains only those items having a Class Code 3B.

2. The following data comes from the Basic Data set:

   Part Number
   Engineering Nomenclature
   Item Number
   Training Part Number

3. The following data comes from the Serial Data Set:

   Serial Number
   Serial Fidelity Code
   Building Location
   Cabinet Location

4. Selection Card Format

Col	Description
1-2	Report Number

5. This report is needed primarily for E&D - Spacecraft Design Division.

STOWAGE LIST AND HARDWARE TRACKING SYSTEM PAGE
REPORT NO. 21 TRAINING HARDWARE MASTER INVENTORY DATE

TRAINING PART NUMBER	ENGINEERING NOMENCLATURE	PART NUMBER	ITEM NUMBER	SERIAL NUMBER	FIDELITY CODE	BLDG LOCATION	CABINET LOCATION
XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXX	XXXXXX.XX.XX	XXXXXXXXXXXXX	XX	XXXXXXXXXXX	XXXXXX

(TRAINING HARDWARE MASTER INVENTORY REPORT)
(FIGURE 4.2.2.21)

4.2.2.22 Suspense File Report (Report Number 22). The format for this report is shown in Figure 4.2.2.22. The user will input the Class Code and Sort Options.

Processing Rules

1. Data for this report is selected by the following option:

Class Code Option	Process
0	Data having a Class Code of 1A, 1B, or 2 will be selected
1	Data having a Class Code 3B will be selected

2. Data for the report is sequenced by the following option:

Sort Option	Process
0	The report is sequenced by Building Location (Destination) and subsequenced by Part Number and Serial Number
1	The report is sequenced by Part Number and subsequenced by Serial Number.

3. A cross reference sorted by Item Number will be produced between Item Number and Part Number.

4. The following data comes from the Suspense Data set:

Item Number
Part Number
Engineering Nomenclature
Serial Number
Authority Document
Building Location (Issued from)
Cabinet Location (Issued from)
Cabinet Location Quantity (Quantity issued)
Building Location (Destination)
Due Date

STOWAGE LIST AND HARDWARE TRACKING SYSTEM
REPORT NO. 22 SUSPENSE FILE

PAGE
DATE

ITEM NUMBER	PART NUMBER	ENGINEERING NOMENCLATURE	SERIAL NUMBER	LOCATION FROM	LOCATION TO	QTY	AUTHORITY DOCUMENT	DUE DATE
XXXXXX.XX.XX	XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXX	XXXXXXXXXXXXX	XXXXXXXXXXX	XXXXXXXXXXX	XX	XXXXXXXXXXX	XXXXXX

(SUSPENSE FILE REPORT)
(FIGURE 4.2.2.22)

5. Selection Card Format

Col	Description
1-2	Report Number
3	Class Code Option 0 - Class Codes 1A, 1B, or 2 1 - Class Code 3B
4	Sort Option 0 - Sequence by Building/Location, subsequenced by Part Number and Serial Number 1 - Sequenced by Part Number and subsequenced by Serial Number

6. This report is needed primarily for E&D and QAD.

4.2.2.23 Data Element Edit Table Report (Report Number 23). The format for this report is shown in Figure 4.2.2.23. This report is to print out the current values in all of the edit tables. This report is needed by all four of the user organizations.

Selection Card Format

Col	Description
1-2	Report Number

STOWAGE LIST AND HARDWARE TRACKING SYSTEM PAGE
REPORT NO. 23 DATA ELEMENT EDIT TABLE DATE

RESPONSIBLE ORGANIZATIONS
XXXX
XXXX
XXXX
VEHICLES
XXXXX
XXXXX
STOWAGE LOCKER LOCATIONS
XXXXXX
XXXXXX
POST-FLIGHT DISPOSITIONS
XXXXXXXXXXXXXXX
XXXXXXXXXXXXXXX
GROUND STOWAGE LOCATIONS
XXXXXX
XXXXXX

(DATA ELEMENT EDIT TABLE REPORT)
(FIGURE 4.2.2.23)

4.2.2.24 Note List (Report Number 24). The format for this report is shown in Figure 4.2.2.24. This report will print out the current Note Numbers with their corresponding Notes in Note Number sequence. The user may specify the alphabetical range of Note Numbers to be printed. The user may also request a cross reference listing.

Selection Card Format

Col	Description
1-2	Report Number
3-4	Range Option Blank - The program will list all Note Numbers and corresponding Notes Alphabetical Characters - The program will begin listing in alphabetical order all data having a Note Number beginning with the alphabetical character input in column 3. The listing will end with the data having a Note Number beginning with the alphabetical character input in column 4
5	Cross Reference Option 0 - The program will not list a cross reference. 1 - A Note Number cross reference with Item Number, Part Number and Training Part Number will appear at the end of the report.

This report is needed by all four of the user organizations.

NOTE NUMBER	NOTE
XXXX	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

(NOTE LIST)
(FIGURE 4.2.2.24)

4.3 Tape Input/Output. One seven track, BCD, loose equipment data tape will be prepared for input to Mass Properties Programs for each mission.

The format for the tape is as follows:

Tape Identification	1 Record per tape
Header Record	1 Record per Item
Detail Record	N; As many per header record as required to stow all locations.

Launch details will be grouped together followed by orbit details and finally return details for each Item.

Two EOF's will indicate end of tape.

Loose Equipment Data Tape Format For Input to MAPSYS

Record Type	Characters Per Record	Field Length (Characters)	Field Nomenclature	Field Format
Tape Identification (1 record per tape)	25	1	Record Type (Always = 1)	N
		5	Flight	A/N
		5	Orbiter	A/N
		6	Date of Tape	N
		8	Filler	
Header Record (1 record per item type)	75	1	Record Type (Always = 2)	N
		12	Item Number	A/N
		First 30 characters	Engineering Drawing Nomenclature	A/N
		20	Item Part Number	A/N

		6	Current Weight	N(F6.2)
		2	Total operational quantity	N
		2	Total payload quantity	N
		2	Filler	
Detail Record (As many per header record as required to stow all items)	25	1	Record Type (Always = 3)	
		12	Item Number	A/N
		6	Stowage Location	A/N
		2	Qty of items stowed in above location	N
		1	Time Code L = Launch O = Orbit R = Return	A/N
		3	Filler	

5.0 OPERATIONAL REQUIREMENTS

5.1 Data Base Security (Protection against unauthorized use). The availability of certain data elements and data sets within the SLAHTS data base must be controlled and limited to only those users which have the proper authority to modify the data base. The authority to access the data base will be verified via a sign-on access code. Figure 5.1 shows the four hardware groups in which the data within the SLAHTS data base will reside. Those groups are explained below:

Group I - Shuttle Operational Hardware. Both an Item Number and Part Number exist. Hardware being tracked by ID, FOD, E&D, and QAD.

Group II - Shuttle Operational Hardware. The Item Number exists but Part Number does not. (No serial data) Hardware being tracked by ID, FOD, and E&D.

Group III - QAD Bonded Storage - Part Number exists but no Item Number. Hardware being tracked by QAD.

Group IV - Hardware being tracked solely by E&D. This hardware pool consists of non-shuttle training equipment.

SIAUTS Data Elements Security Matrix - Basic Data Set

	Shuttle Only		Shuttle & Other Except Training	Training Not Shuttle
	I Item Number & Part Number	II Item Number	III Part Number	IV Training Part Number
Building 36 Accountability	ID	ID	ID	E&D
Current Weight	ID	ID	ID	E&D
Current Bldg. 36 Inventory	ID	ID	ID	E&D
Current Other Inventory	ID	ID	ID	E&D
Cycle Life	QA	QA	QA	E&D
Engineering Nomenclature	ID	ID	QA	E&D
Fit Check Requirement Flag	ID	ID	ID	E&D
Function/System Classification	FOD	FOD	FOD	E&D
Height	ID	ID	ID	E&D
Item Number	ID	ID	ID	
Length	ID	ID	ID	E&D
Minimum B ilding 36 Inventory Requirements	ID	ID	ID	E&D
Minimum Requirement Fidelity Code A	E&D	E&D	E&D	E&D
Minimum Requirement Fidelity Code B	E&D	E&D	E&D	E&D
Minimum Requirement Fidelity Code C	E&D	E&D	E&D	E&D
Minimum Requirement Fidelity Code D	E&D	E&D	E&D	E&D
Minimum Requirement Fidelity Code E	E&D	E&D	E&D	E&D
Note	ID, FOD, E&D	ID, FOD, E&D	ID, FOD, E&D	E&D
Note Number	ID, FOD, E&D	ID, FOD, E&D	ID, FOD, E&D	E&D
Operating Time Life	QA	QA	QA	E&D
Part Number	QA	ID	QA	E&D
Procedural Nomenclature 1	FOD	FOD	FOD	E&D
Procedural Nomenclature 2	FOD	FOD	FOD	E&D

Figure 5.1

SLAHTS Data Elements Security Matrix - Basic Data Set (Continued)

	Shuttle Only		Shuttle & Other Except Training	Training Not Shuttle
	I Item Number & Part Number	II Item Number	III Part Number	IV Training Part Number
Program Code	QA	QA	QA	E&D
Refurbishment Time	ID	ID	QA	E&D
Replacement Lead Time	ID	ID	ID	E&D
Responsible Organization	ID,QA	ID,QA	QA	E&D
Shelf Life	QA	QA	QA	E&D
Specification Weight	ID	ID	ID	E&D
Training Part Number	E&D	E&D	E&D	E&D
Unit of Issue	QA	QA	QA	E&D
Width	ID	ID	ID	E&D

Figure 5.1 (Continued)

SLAHTS Data Element Security Matrix - Serial Data Set

	Shuttle Only			Shuttle & Other Except Training	Training Not Shuttle
	I Item Number & Part Number			III Part Number	IV Training Part Number
Class Code =	1A	2	3B	1B,2,3A	3B
Authority Document	QA	QA	E&D	QA	E&D
Building Location	QA	QA	E&D	QA	E&D
Building Location Quantity	QA	QA	E&D	QA	E&D
Cabinet Location	QA	QA	E&D	QA	E&D
Cabinet Location Quantity	QA	QA	E&D	QA	E&D
Class Code	QA	QA	E&D	QA	E&D
Contract Number	QA	QA	E&D	QA	E&D
Cycle Life Remaining	QA	QA	E&D	QA	E&D
Due Date	QA	QA	E&D	QA	E&D
Expected Delivery to B36	QA	QA	E&D	QA	E&D
Fit Check Complete Flag	QA	QA	E&D	QA	E&D
Hardware Transfer Date	QA	QA	E&D	QA	E&D
Issue Date	QA	QA	E&D	QA	E&D
Serial Fidelity Code	E&D	E&D	E&D	E&D	E&D
Serial Number	QA	QA	E&D	QA	E&D
Shelf Life Expiration Date	QA	QA	E&D	QA	E&D
Time Life Remaining	QA	QA	E&D	QA	E&D
Unit Serial Number Weight	QA	QA	E&D	QA	E&D
Work Order Number	QA	QA	E&D	QA	E&D

Figure 5.1 (Continued)

SLAMTS Data Element Security - Flight Configuration Data Set

	Shuttle Only		Shuttle & Other Except Training	Training Not Shuttle
	I Item Number & Part Number	II Item Number	III Part Number	IV Training Part Number
Flight Number	ID	ID		
Landing Site Disposition	ID	ID		
Launch Location	ID	ID		
Launch Location Quantity	ID	ID		
Orbiter	ID	ID		
Orbit Location	ID	ID		
Orbit Location Quantity	ID	ID		
Phase	ID	ID		
Post Flight Disposition	ID	ID		
Return Location	ID	ID		
Return Location Quantity	ID	ID		
SLCN Date	ID	ID		
SLCN Description	ID	ID		
SLCN Number	ID	ID		
Total Operational Quantity	ID	ID		
Total Payload Quantity	ID	ID		

Figure 5.1 (Continued)

Within each group, the control of the data elements is given by user organization. The following user access codes are required. The actual user password (sign-on access) will be determined when the program becomes operational.

	Type	Description
1	Universal Read	Ability to read all data in the data base but unable to perform updates of any kind.
2	ID	Password used by the Integration Division which allows unrestricted read and the update access shown in figure 5.1.
3	QAD	Password used by Safety Reliability and Quality Assurance which allows unrestricted read and the update access shown in figure 5.1.
4	FOD	Password used by the Flight Operations Directorate which allows unrestricted read and the update access shown in figure 5.1.
5	E&D	Password used by the Engineering and Development Directorate which allows unrestricted read and the update access shown in figure 5.1.
6	Batch Report	Password used to request batch reports.
7	Omnipotent	Password which probably only the Operations Chief will have (section 6.1.4). This password will allow the user to alter the coded value of any password. It will also allow edit table updates. It will also allow all capabilities specified for passwords 1 through 6.
8	Universal Update	Password allowing all capabilities and access of passwords 1 through 4 and 6.

9	S2K Master Password	The System 2000 Master Password. Available to only the data base administrator.

5.2 Data Base History. The updating process automatically adds data to the History Data set. A minimum of 10 sets of History data for each Serial/Lot Number must be retained, available for display online. At certain intervals, the program producing the Item History Report (Report #15) will use this data set as input. At successful completion of the report, this program will reduce the number of data sets for each item to the latest 10; those history data sets purged by the program for the item will then be available from the printed report if it is needed beyond what is currently stored in the Serial History Data set. The interval for dumping the history data will be on an as needed basis to reduce mass storage use.

5.3 Data Base Integrity (Recovery from data base loss). The data base must be protected from accidental loss. A lost or damaged data base must be restored within 4 hours to the point of the last transaction.

5.4 Terminals

Terminal response time for this application is defined as the time the user completes data input to the time the system response begins to appear on the screen. This time should average 10 seconds during any one hour of terminal operation.

The following number of terminals are needed in the locations given:

Building 36 Production Area and Bond Room	3
Building 16 Bond Room	1
Building 10 Bond Room	1
Building 7A Bond Room	1
Building 15 Bond Room	1
Building 36 Bond Room	1
Building 35 Training Center	1
TOTAL	9

Use of existing MOPS terminals in building 4 is needed. One terminal for query purposes may be located at each of the two launch sites.

Video display terminals with foreground/background capabilities such as the JSC MOPS (Hazeltine 4000G) or Hazeltine 2000 terminals are required. A minimum screen size of 74 characters by 27 lines is required. All

terminals will be used for "Form Fill-out" and must have minimally a standard character repertoire of 64 ASCII alpha-numeric characters.

The system must allow for concurrent updates to the data base from multiple users. The estimated maximum number of concurrent SLAHTS users is 12.

5.5 Operational Statistics

5.5.1 Data Base Size. The maximum SLAHTS data base size will be reached during the period of time of maximum flight frequency of up to one flight per week. At this time, the SLAHTS data base, including System 2000 data base management overhead, is estimated to require 107 million characters of mass storage.

5.5.2 Batch Report Projections. Based on an operational status of sixty flights per year for the Shuttle Program, the following table contains the estimated frequency of use of each of the batch reports. Also given is the corresponding volume for each report.

	Report	Maximum Frequency	Volume/Report (Pages)
1	Stowage List Report	8/week	50
2	Logistics Management Report (Item Level)	1/week	40
3	Logistics Management Report (Serial Number Level)	1/week	180
4	Prepack Procedure Report	3/week	150
5	Stowage Locker Report	8/week	50
6	Master Bond Room Storage List	bi-weekly	2000
7	Post Flight Disposition Report	1/week	90
8	Nomenclature Definition Report	1/month	200

	Report	Maximum Frequency	Volume/Report (Pages)
9	Alphabetical Procedural Nomenclature Report	4/week	25
10	Flight Equipment Serial Report	2/week	30
11	Flight Location/Equipment Report	3/week	15
12	Inflight Transfer List Report	3/week	10
13	Responsible Organization List	1/month	1000
14	Shelf Life Expiration List	1/month	20
15	History Report	Quarterly	300
16	Annual Inventory List	1/year	3000
17	Functional/System Classification	4/week	35
18	Stowage List Change Notice Report	8/week	35
19	Equipment Class 3 Report	1/month	20
20	Training Stowage Requirements and Status	1/month	50
21	Training Hardware Master Inventory Report	1/month	600
22	Suspense File Report	1/week	20
23	Data Element Edit Table Report	1/month	10
24	Note List	1/month	60

5.5.3 Online Usage Projections. The frequency of use of the online displays is given below. This is based on the Shuttle Program having an operational status of fifty-two flights per year.

	Display	Frequency/Day
01	Basic Data	135
02	Serial Data	315
03	Flight Configuration Definition	146
04	Flight Location/Serial Configuration Data	84
05	Flight SLCN History	31
06	Function/System Classification	21
07	Location Inventory Query	73
08	Flight Configuration Change Query	26
09	Serial History Query	35

5.6 Initial Data Base Loading. Data to be initially loaded into the system will consist of the data in the master file for the Bonded Storage System. This file is created and maintained on tape with a batch system which runs on the UNIVAC EXEC 8 computer. The record format is shown in Figure 5.6. The preprocessing required for each data element in a record is listed below.

1. The Item Control number is deleted as a data element.

2. The "building" portion of the Item Control Number of each record becomes the Building Location.

3. Part Number of the record becomes the Part Number.

4. Serial Number of the record becomes a Serial Number for the previous Part Number.

5. Acquisition Date is dropped as a data element.

6. Issue Date of the record becomes Issue Date.

7. Location of the record becomes Cabinet Location.

8. Quantity on Hand for the record becomes the Cabinet Location Quantity.

9. Authority Document for the record becomes Authority Document.

10. Equipment Class for the record becomes Class Code.

11. Program Code for the record becomes Program Code.

12. Unit of Issue for the record becomes Unit of Issue.

13. Item Name for the record becomes Engineering Nomenclature.

FILE DESIGN SHEET

PAGE OF

1. FILE NO.	2. SOURCE JOB NO	3. DATE	8. INPUT TO	9. OTHER REF. FILES
4. FILE NAME	6. TYPE	7.		

10. DESCRIPTION

ITEM CONTROL NUMBER	PROGRAM CODE	UNIT OF ISSUE	ACQUISITION DATE	ISSUE DATE	SHELF LIFE DATE	WORK ORDER NUMBER	AUTHORITY DOCUMENT NUMBER	EQUIP CLASS	QUANTITY ON HAND	ITEM NAME
X(8)	X(2)	X(2)	9(6)		9(6)	X(6)	X(11)	X	SH9(10)	X(10)
1 LABEL S	9 10	11 12	13 18	19 24	25 30	31 36	37 47	48	49 54	55 64

CONTRACT NUMBER	PART NUMBER	FILLER	SERIAL NUMBER	FILLER	LOCATION	FILLER	RESPONSIBLE ORGANIZATION	
X(8)	X(16)	X(2)	X(16)	X(2)	X(7)	X(2)	X(3)	
65 72	73 88	89 90	91 106	107 108	109 115	116 117	118 120	

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14. Work Order for the record becomes Work Order.

15. Contract Number for the record becomes Contract Number.

16. Shelf Life Date for the record becomes Shelf Life Expiration Date.

Processed data should be output to a tape suitable for bulk loading purposes. All class code 1 values will be loaded as class code 1B.

5.7 Test Requirements.

5.7.1 Test Data Sources. Selected data will be extracted from the inventory of the QA bonded storage system. To ensure comprehensive testing, the data will be supplemented by LEC to include all data configuration and elements anticipated in the operational environment.

5.7.2 General Test Approach. LEC will perform informal unit testing for preliminary checkout of SLAHTS. System tests will then be performed under the observation of the IDSD Technical Monitor. Test scripts will be agreed upon and approved by both LEC and IDSD.

5.7.3 Acceptance Criteria. When all displays, batch reports, and data base changes for each release execute to the satisfaction of the IDSD Technical Monitor, SLAHTS will be delivered to IDSD.

6.0 BASIC USER OPERATIONAL PROCEDURES

In general, this section is intended to document the framework within which the organizations must function as users of the system. As a minimum, this framework definition must provide a basic manual procedure for using each system capability which serves more than one user organization. For example, the item history capability is used by all of the user organizations; however, the initiation of the history report run and corresponding data purge of the online history data must come from a central point. Also, this framework definition must provide a basic manual procedure to work around all limitations on what can be done via software capabilities. Figure 6.0 illustrates the flow of data and report requests into and out of the SLAHT system. To accomplish this, organizational duties have to be assigned in advance.

6.1 Personnel Groups and Functions

6.1.1 Production Center Terminal Operators. Requirements call for three remote terminals in the production center in building 36. These terminals will be used to make all stowage list updates and all updates to the basic and serial data required by QA. Also, serial data updates resulting from locker pre-packing operations will be made by these terminal operators. Due to the planned launch frequency for the Shuttle Program, this will require two shifts of operators. Most changes to the data base will be controlled by the respective user organizations by written request. In addition, the user organizations will request a batch report by contacting the production center. It will be the responsibility of the clerks to maintain appropriate files and arrange for keypunching, batch job submittal, and batch output distribution.

6.1.2 Bond Room Clerks/Terminal Operators. The terminals in each of the bond rooms will be used for tracking the movement of all hardware between bond rooms and into and out of the bonded storage system.

6.1.3 Training Center Operators. The requirements will be performed by civil service personnel responsible for training hardware.

6.1.4 Operations Chief. This person will be responsible for coordinating the activities of the other personnel who

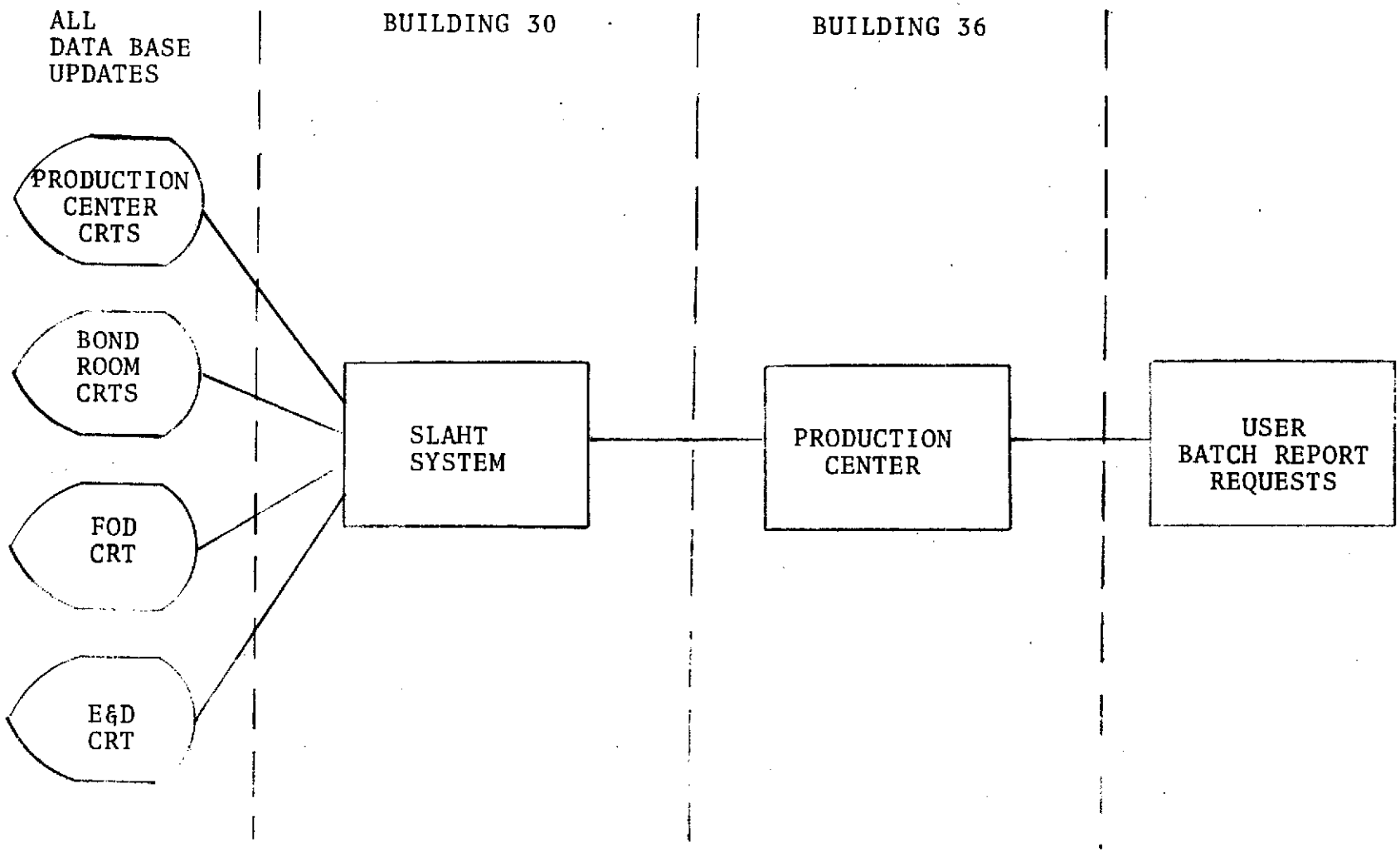

FIGURE 6.0 FLOW OF INPUT/OUTPUT OF SLAHT SYSTEM

interact with the system, i.e., terminal operators and production center clerks.

6.2 Coordination Requirements. The SLAHTS data base will consist of data being input and tracked by four NASA organizations. On any integrated data base potential usage and tracking conflicts arise which cannot solely be handled via computer software, but must be handled via user procedures and coordination. Two such examples are identified below:

- POO is tracking hardware via an Item Number and QAD tracking data for new hardware via a part number. A problem arises when both users have entered data into the data base before the Item Number and Part Number are assigned to each other. User coordination is required during the process of combining the data.
- E&D and QAD both have existing, pre-shuttle hardware with identical part numbers. A procedure is needed to determine which user will control the basic data set elements (see Data Base Security 5.1).

6.3 Batch Runs. The user organizations will arrange to have batch runs made by contacting the production center clerks. The clerks will need to know the report number and, depending on which report is being requested, what data is to be input to the report program. If necessary, controls can be established to restrict report requests to certain persons for certain reports. The clerks will prepare the run decks, submit the decks for execution, and make output disposition as required to the user organizations. Some reports will be dispositioned at regular intervals to specified user organizations.

Edit table updates will be made as batch runs because of the low frequency of change. Controls will be established to restrict authority to request updates of these tables to certain persons for certain tables.

6.4 History File Maintenance. The history file size must be monitored. At the appropriate time, it must be purged of old data and reduced to a smaller size. This function will be carried out by the production center clerks. The history reports produced during this process will be distributed to all the user organizations.